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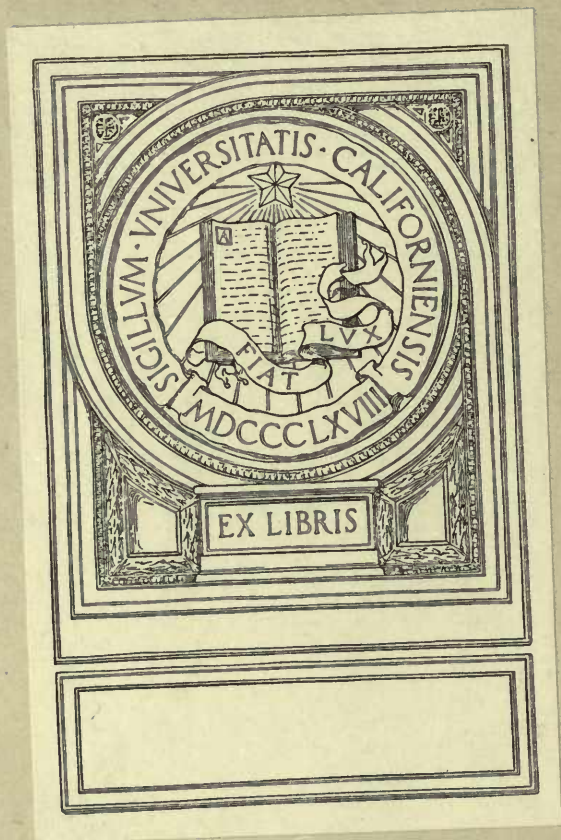


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DEER BREEDING
FOR FINE HEADS
WITH DESCRIPTIONS OF MANY
VARIETIES AND CROSS-BREEDS
BY WALTER WINANS F. Z. S.

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To Ray Lancaster
from his friend

Walter Winans

Dec 9th 1917

DEER BREEDING FOR FINE HEADS



DEPT. OF
CALIFORNIA



AUTHOR WITH WAPITI.

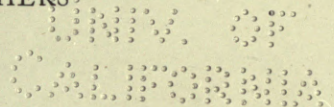
Frontispiece.

DEER BREEDING FOR FINE HEADS WITH DESCRIPTIONS OF MANY VARIETIES AND CROSS-BREEDS BY WALTER WINANS, F.Z.S.

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ILLUSTRATED WITH PHOTOGRAPHS BY THE AUTHOR

H. PENFOLD, W. ROUCH, & OTHERS.



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TO VIND
AIRPORT

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PREFACE

THE following rough notes on a subject which, so far as I know, has never been written on, will, it is hoped, prove of use to owners of deer-forests and deer-parks.

As a rule, the herds of deer in parks are too often left to breed at haphazard, and in many parks there are herds of stunted fallow deer as small as goats and carrying miserable "heads."

Even where fallow deer are better looked after, it is usual to breed to a standard merely for venison, and so long as a buck is fat, no attention is paid to his colour or head, and a herd usually consists of animals of all colours and shapes.

To see, for instance, a herd of fallow deer all dappled and all looking alike, is very rare; and this book is intended to assist those who desire to have their deer as well tended and well bred as prize poultry or prize dogs.

Feeding is, of course, of the utmost importance, and this should be done systematically all the year round and not deferred till the cold weather sets in, when the deer are frequently too much weakened to derive any real benefit from artificial feeding.

Peas, beans, wurzels, acorns, and hay (the latter in racks, to prevent the deer pulling it out and wasting it—the racks being of such height that sheep cannot reach the tray) are necessary, as are also lumps of rock-salt and chalk to aid in forming bone and horns.

By good management the average weight of deer may be greatly increased; and I hope the time will come when pedigree deer will be available for interchange between various parks owned by breeders.

As regards my own deer, I am fortunate in possessing a man to look after them who is ready to learn; the chief difficulty being to get such a man. For, as a rule, the ordinary forester or keeper works on fixed ideas, and cannot be induced to do otherwise; whereas for the purpose of breeding and crossing deer it is essential that the old methods of deer-park management should be largely modified. The average keeper is indeed like the Count described by Guy de Maupassant in *Confessions d'Une Femme*, of whom he writes as follows:—

“On sentait un esprit plein de pensées toutes faites, mises en lui par ses père et mère qui les tenaient eux-mêmes de leurs ancêtres.

“Il n'hésitait jamais, donnant sur tout un avis immédiat et borné, sans embarras aucun et sans comprendre qu'il pût exister d'autres manières de voir. On sentait que cette tête-là était close, qu'il n'y circulait point d'idées qui renouvellent et assainissent un esprit comme le vent qui passe en une maison dont on ouvre portes et fenêtres.”

WALTER WINANS

SURRENDEN PARK, KENT

May, 1912

DEER BREEDING FOR FINE HEADS

THE RED DEER (*Cervus elaphus*)

THE various modifications of the red deer differ chiefly in their horns. There is indeed a white breed or variety found in some parks, but this differs only in colour from ordinary park red deer.

There has been a good deal of talk about the deterioration of the Highland red deer "heads" ("head" being the technical stalking term for the pair of horns) by the introduction of park and German stags into the Scotch deer-forests for the purpose of improving the "heads." But I am personally of opinion that the old "Highland head" died out long ago—before I began stalking in 1870.

What I regard as the true "Highland head" is the type seen in the illustrations to Scrope's *Days of Deer-Stalking* and in some of Landseer's pictures; the main characteristic being the great amount of curl in the points of the horns, like the flourishes old masters of penmanship used to make in writing.

I have never seen a living stag with such horns, but specimens of

the type are preserved in old Scotch castles, a photograph of one of which is here reproduced.

Seeing, then, that there is no living "Highland head," it is useless to complain that the type is being spoilt; and the only thing to do is to try to breed the best possible heads of the Continental type.

When the horns have too many points they spoil the symmetry of a head: sixteen or eighteen points look much better than twenty-four or more.

The Warnham herd, as was formerly the case with the Stoke Park herd, has very fine heads; and a cross from the Warnham herd improves most herds.

In a later section it is explained how red deer may be improved as to both head and body by crossing with allied species, like the wapiti of the American Continent and the Altai stag, which is really only an Asiatic form of the wapiti.

All such crosses and hybrids are fertile, and by breeding from the products of these crosses we get the red deer—as distinct from the wapiti—type of head; such heads are indeed very large and strong, much superior to any modern pure red deer, and recalling the magnificent heads preserved in old German castles.

In all parks it is of the utmost importance to change the pasture of deer, that is to say, to fence off a part of the park, purify it, and get it fresh for a year or more, and then let the deer in and shut them off from their old ground, which is then treated in the same way. A restricted area is sure to get stale and unsuitable for deer, if constantly occupied by them.

I have found chalk spread on the unoccupied ground very advantageous as a means of renovation.



RED DEER STAG.

Showing stages in the growth of a set of "royal" antlers during two months.

If deer are well fed, the points of their horns increase very rapidly; and I have seen a "first head" of five points, and two-year-olds with ten and twelve points, instead of carrying only long single points, after the usual fashion. Such heads are illustrated among the photographs, which include an eighteen-pointer shot by myself at Warnham Park in 1909, with his shed horns of the three previous seasons.

The great thing in starting a herd of red deer is to obtain stags and hinds from strains in which the former have many points to their horns. Some deer never develop many points; but many of the Warnham stags carry a great number of points at a very early age; and it is possible, with care, to produce a herd in which these characteristics are strongly developed. In Germany the stags on the preserves of the Prince of Pless carry very good heads, and in consecutive years have won prizes at the German Stag-horn Exhibitions.

Here it may be mentioned that it is a pity no such exhibitions are held in England, as they tend to improve the breed of deer, just as horse-shows improve the breeds of horses. The German exhibitions are got up by practical men; the classes being so arranged as to give each sort of deer its proper chance, park-deer, for instance, not competing with wild forest-deer, or these, again, with wild mountain-deer.

In judging heads, shape and thickness count more than mere number of points; in Germany and Austria the number of points on the horn bearing the most is doubled in describing that head; if there are not the same number of points on both horns, the word uneven, "*ungerade*," is added.



RED DEER STAG.

Showing further stages in the growth of a set of "royal" horns during a period of two months.

For instance, a stag with seven points on one horn and six on the other, which would in England be called a thirteen-pointer, is designated in Germany an uneven fourteen-pointer. This, I presume, originated from a thirteen-pointer being regarded as a malformed fourteen-pointer, just as a man with a finger missing from one hand might be called an uneven-fingered man.

The horns of the stags, as of course those who study natural history know, are shed and renewed each year.

On the main beam the first point above the forehead is called the brow-point, the second the bay-point, and the third the tray-point. I have seen a fourth point in one or two heads above this, but am not acquainted with any name for such a tine. The head in which I observed this was in a country inn in Galicia; but as I was in a hurry to shoot a bear which was in the neighbourhood, and never got back to the inn, I cannot give further details, although I know it was a big wapiti type of red deer with some fourteen or more points and a brow, bay, tray, and fourth point on each horn besides the cup at the summit.

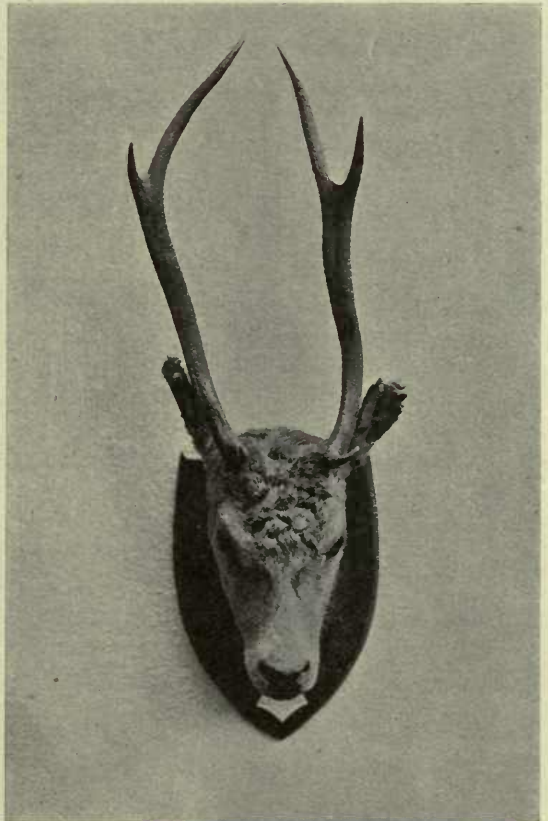
A ten-pointer may be in two forms, or a combination of the two forms; that is to say, either brow, bay, and tray, and two points at the top on each horn; or brow, tray, and a cup on each horn, or one horn of each of these types.* The nine-pointer in a similar manner has the number of points on his five-pointed horn in either of these forms, and the other horn with brow, tray, and a fork at the top. In the case of a seven-pointer, there are a brow, bay, and fork on one horn, and brow, bay, and end of beam on the other.

* See deer No. 4 in illustration on page 103.

In an eleven-pointer the five-pointed horn usually shows one of these two combinations, while the six-pointed horn has brow, bay, tray, and cup of three at top.

This brow, bay, and tray, with three points at top in the shape of a cup, when developed on each horn, make up the royal or twelve-pointer, which is the normal "full head" for a red deer stag. Such a stag may, however, continue to develop more points, generally by additions to the cup, or the double cup, till he has forty-four or even more points, although as a rule the mass of the horns does not increase, but is only sub-divided into more points.

Sometimes a point projects backwards about level with the tray-point or slightly above it (thus reverting to the point carried by the fallow deer), and this point may be forked; but generally all the points above the brow, bay, and tray are collected in a cluster at the top of the beam, till, when a great number of points are developed, an almost palmated appearance is given to the horn. As a stag gets past his prime the horns become stunted, and the increase of points ceases.



"OLD UGLY"

RED DEER STAG SHOT BY AUTHOR IN GLEN
STRATHFARRAR, INVERNESS-SHIRE,
APPROACHING SIKA AND ROE-DEER TYPE.

If a stag has been wounded or injured the horn on the opposite side often shows a malformation or diminution in size of beam.

Any additional points that may be developed in a horn occur at the top of the beam, either in the form of a fork or a cup (as a group of three or more points is called).

Sometimes one of the points of the cup may have a fork at the tip, when it is called a double cup. In the wapiti the bay or tray tine sometimes ends in a fork, but I have never seen this in a red deer.

A stag is popularly supposed to add a pair of points, one on each horn, for each year he lives, but in reality when a stag sheds his horns he generally increases the number of points by several extra ones on each horn, if he has good feeding; and a royal or twelve-pointer head may be obtained before the stag is three years old.

The first head, that is to say, the two-year-old head, has generally one long beam without points, but I have sometimes seen, at any rate in the wapiti, a beam with a fork to each tip, and I possess a head with a fork on one horn and a "trident" on the other—a "trident" indicating the type in which the three points are in one plane parallel to the spine of the animal.

The three-year-old head shows brow-points, and occasionally tray-points as well, but in one case in my park it is a twelve-pointer.

A bay-point is not, as might be supposed, the one which, with the brow-point, makes up a six-pointer; for a six-pointer has only a brow and a tray point, and the bay comes in between these when there is a fork with three or more points on the beam (the end of the beam, of course, counting as a point when there is no fork in

it); hence a six-pointer has brow, tray, and the end of the beam on each horn.

An eight-pointer is seldom made up of brow, bay, and tray, but of brow, bay, and a fork at the tip of each horn.

I have shot a stag, a six-pointer, which was very old and had his horns almost parallel, only three inches apart at the top of the beam; there are also stags with one horn bent forwards or backwards (see page 7).

A good head has the horns at first diverging, and then bent inwards towards each other; at any rate this is the case when there are not very many points, but if the points are very numerous the horns do not as a rule first diverge and then incline towards each other, but assume a V-form.

In judging points in a horn-exhibition account is taken not only of the number of points, but of the amount of "pearl" at the base of the horn, the roughness and thickness of beam and points, length and spread, regularity, etc.

Shed horns do not generally show the dark brown colour seen in those of a shot stag, especially if the stag has been amongst peat, or oak trees; and it is not permissible to colour horns artificially, or whiten the points by sand-paper or any such means.

If stags are kept in a paddock there is danger of their wearing and spoiling their horns by rubbing them against the fence, especially if there be another stag or hinds in an adjoining paddock, when they keep charging and rubbing against the partition to try to get at each other. It is also important that the shed, if they are provided with one, should have a very wide

door, so that there is plenty of room for their horns to pass through without the stags having to turn their heads sideways.

A narrow door, by constantly rubbing against the horns as the stags pass in and out, prevents them, when in velvet and growing, from spreading, and thus produces a narrow type of head.

It is indeed absolutely necessary to keep only one stag with each lot of hinds, when in a paddock, as otherwise the stags kill one another, and likewise injure the hinds by fighting over them and hustling them about.

All two-year-old stags should be removed for the same reason and not kept within sight, or even hearing, of a stag with hinds, or otherwise they get fighting among themselves and kill each other.

I once tried keeping smaller deer and antelopes in the same paddock with a big stag and his hinds, but the stag killed them all. Here it may be mentioned as a curious circumstance that a stag is apt to kill a hind newly turned into his paddock. I have had this happen several times, and never could account for it; the stag seemed to take a dislike to the stranger the moment she was put in, whereas with another hind he would be perfectly friendly as soon as she was introduced into the paddock. This is a risk for which the breeder must always be on the look-out; and when a new hind is introduced, the pair should be closely watched to see if the stag will be friendly. The stag is more likely to become so if the introduction takes place when he has shed his horns, so that he may have time to get accustomed to her before his new horns grow.

When kept in a park where the ground is uneven, or where there

are brick or stone walls, or clumps of trees in the lee of which they can get shelter against wind and rough weather, red deer can take care of themselves in an ordinary English winter; but, if they are confined in small paddocks where there is no shelter, it is best



MILLAIS RED DEER HEAD. THIRTY-ONE POINTS.
Bred and owned by C. J. LUCAS, Warnham Court, Horsham.

to have sheds for their protection. Such sheds should be provided with hay-racks wide enough for all the deer to be able to feed without having to fight for a place, or else the stag will get the most of the food and be likewise apt to injure the hinds. Three

sides should be walled, not with open boards which let the wind through, but solid, so that the wind cannot penetrate; the fourth side should be open to the south.

Such a shed must be cleaned out occasionally, but the man who does this, and who also goes in to feed and water the deer, must be very careful of the stag, especially during the rutting-season, and should always carry a pole with a short spike at the end with which to protect himself. With some stags my man has found it necessary to carry a wooden shield as well; and if a stag be very dangerous, wooden shelters built against the side of the fence to enable the keeper to slip behind them (but too narrow for the stag to be able to follow) are useful. The keeper can then make his exit by climbing over the fence without exposing himself to the enraged animal.

Deer should always be provided with rock-salt to lick; and a small pond in which they can roll and plaster themselves with mud as a protection against flies in summer is almost a necessity. A running stream is the best for drinking water, but if this is unattainable the water should be frequently changed. In my sheds the rain-water from the roof is led by pipes into the drinking troughs, and the overflow goes into the bathing pond. Care must of course be taken that the mud at the bottom of the pond is not so deep or sticky as to endanger the lives of the calves if they get in too deep.

One stag should not be allowed to run more than two or three seasons with the same lot of hinds; and in practice it is well to change the stag every year, so as not to get the stock too interbred. With old hinds a young stag is best, and vice versâ. In



RED DEER FROM WARNHAM PARK, SHED HORNS, 1907.



Photo by H. Penfold.

RED DEER STAG FROM WARNHAM PARK, SHED HORNS, 1908.

no case should a stag which is past his prime be used in the stud.

A regular stud-book should be kept of paddock-deer, each deer having its ears marked when a few days old, and then entered in the stud-book.

In breeding for heads, it is important to be careful that all your stags and hinds come of families which have good heads, and likewise to kill off any which show the least disease, especially lung-trouble. Consumption and malformed feet are the two diseases I find most prevalent in deer kept in confined spaces in England.

As a rule, very early or very late calves are not much use, and all such, as well as all weakly or deformed ones, should be got rid of at once, as, if allowed to live, they will give a lot of trouble later, and if any malformation becomes established in a herd it is difficult to eliminate after the sound deer have interbred with the deformed ones. A stag with a narrow head, e.g. horns growing more or less parallel instead of curving outwards in a semicircle, is best got rid of at once as soon as he has horns long enough to show this defect.

There is a form of deformity called "hummel" in Scotland, in which the stags have no horns at all, but merely an unusually thick-domed skull. I have, however, never seen this deformity amongst park-deer; and the so-called "switch-horns," or full-grown stags with only beams and brow-points, are rare amongst park-deer. When they occur, the deer should be killed, unless you desire to start a breed of hornless or pointless deer. This, I suppose, would be possible with careful selection, and the elimination of any stags not conforming to the particular type wanted;

and hornless stags could thus be bred for venison, which would probably work well.

Red deer—in fact practically all deer—are dangerous when in



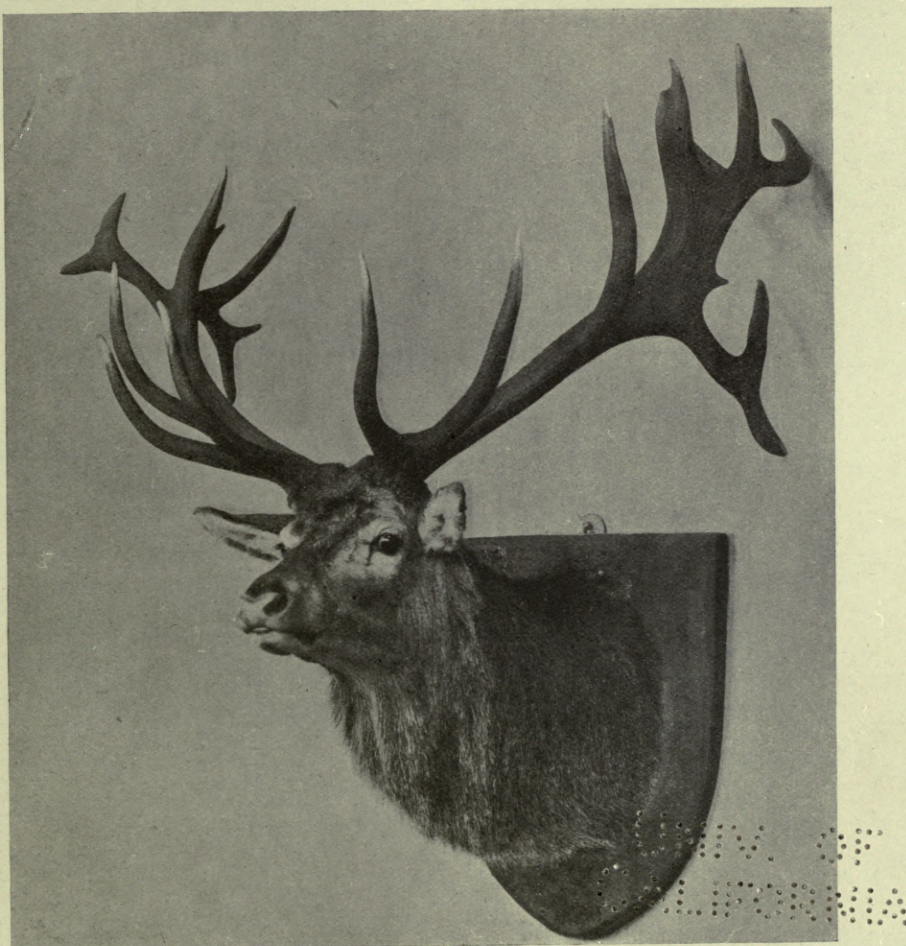
EIGHTEEN-POINTER RED DEER STAG FROM WARNHAM PARK, 1909.

a paddock; and the former are likewise dangerous when kept in a small park, especially during the rutting-season. Moreover, it is inadvisable to keep red deer in parks where public footpaths pass near where the stags are in the habit of lying or of taking their hinds during the rutting-season.

If fresh blood is desired to be introduced into an unfenced deer-forest, and there is a risk of the introduced stags straying and getting shot or lost, I have been informed that it is a good plan to build several enclosures too high for deer to jump over in the places where the hinds are likely to congregate during the rutting-season, leaving narrow openings in several places through which the latter can pass, but too narrow for stags with horns to get out of. A stag is put in each of these enclosures, when he is supposed by his roaring to attract hinds to his vicinity.

Here I am merely relating what I have been told, but it seems to me very problematical if the outside stags would allow any hinds to enter the enclosures. And a better plan, in my opinion, would be to saw off the horns of any stags to be turned into a forest just above the brow-points, so as to leave the brow-points themselves, and straightening them if they are too curved to be effective in fighting by sawing off the ends and then sharpening the basal portion. This would have a two-fold result. The stags so treated could defeat any rivals carrying their full horns they might encounter, as these two sharp brow-points would get inside the guard of their opponents, there being no beams or upper points to hold them back; moreover, as these maimed stags would not have heads worth shooting, stalkers would leave them alone till they had cast their horns and grown a new set, by which time they would have served their purpose for at least one season. But such stags would be sure to kill lots of other stags.

I do not believe in turning out pure-bred wapiti or Altai stags in a deer-forest, as they are too big; but half or quarter bred Altai-red-deer or wapiti-red-deer hybrids would improve the deer



TWENTY-SIX POINTER. A VERY FINE EVEN HEAD.
Bred and owned by C. J. LUCAS, Warnham Court, Horsham.

To face page 16.

in a forest, and look so like true red deer that the latter would take to them at once. I have a herd of this triple cross which has become a permanent breed and type in appearance, rather like a very large grey-coated red deer.

It is best not to turn out fresh stags too near the rutting-season, although long enough before to allow them to get used to their companions first, or otherwise the original stags will combine against the new-comers, and most likely mob them to death, as has been the case with fallow deer turned into my own park.

Fences for red deer require to be very high. As I found a seven-foot wire-strand fence is not high enough, I now have in my paddock, on top of the seven-foot fence, two feet more inclined inwards at an angle of forty-five degrees; I likewise have the steel wires very close together for the first five feet. Wire-netting against the wire-strands is apt to get ragged and catch in the stags' horns.

It is difficult to supply satisfactory covert in paddocks in which the hinds may produce and hide their young; as, if the protection be too good, the stag is apt to kill the calf by trying to turn it out so that he himself may lie in the shelter. The only way is to have the paddock large enough, with not too many deer in it, and to remove the stag and separate the bad-tempered hinds as soon as the others are ready to calve.

I have seen very good stags in Galicia, almost like wapiti in size, but as they cannot be driven (the woods being too large) or stalked, they are waited for when roaring in the openings.

It is curious that Scotch stags are at the present time the worst in Europe.

On the Continent the greatest care is taken to improve deer, but in Scotland the general rule seems to be to kill every big stag that can be seen, without any reference to the future good of the herd.

How often one hears a stalker say, "Do not shoot that stag, he has a bad head," or, "We had better go on, there is no head worth shooting in this lot"; whereas he ought to say, "There is a stag with a very bad head, you had better shoot him."

What would be thought of a breeder of horses or cattle who killed every good animal he bred and only kept the trash? And yet this is just the way most Scotch forests are managed.

As already mentioned, there are white red deer in a few parks, and I suppose there must have been a time when stags with a white blaze on the face were not uncommon, as one hears of the "bald-faced" stag as an inn-sign. Personally I have never seen one, but I once saw in a menagerie a female roe with a broad white stripe down her face, labelled "Common" Roe!

It is curious how the "White Hart" inn-sign (a hart is old English and Scotch for a warrantable stag) is generally wrongly represented. On the road from Ashford to London, via the Old Kent Road, there are three White Hart Inns, one of which has a white hind instead of a stag on the sign-board, while the other two have white fallow bucks as signs. At Pirbright I came across a White Hart Inn which had the outline of a conventional "Heart" cut into the wall, as a sign, so I painted a new sign-board with an albino stag with pink eyes like a white rabbit, and a pink nose and yellow hoofs and horns, for the inn. I find, however, that I was wrong with regard to the eyes, white "red deer" having pale hazel eyes.

Such deer are weedy and have poor heads, no doubt from inbreeding, and I am trying to improve them by crossing with ordinary good red deer and wapiti, and then breeding back for the white colour. I am also incidentally trying to get a French grey coloured breed, and have succeeded in producing this shade in a fallow deer doe. A calf out of a white red deer hind by a wapiti stag at six weeks old is almost the normal colour of a wapiti calf, only the bay colour is a shade lighter and yellower.



GREAT WARNHAM STAG. FORTY-SIX-Pointer.
Bred and owned by C. J. LUCAS, Warnham Court, Horsham.

THE WAPITI (*Cervus canadensis*)

WAPITI when in parks are very apt to get deformed feet, that is to say, the hoofs grow too long and turn up at the points ; and as this deformity becomes hereditary it is very important to shoot any deer showing indications of the defect. In the English climate these deer also develop lung-troubles ; and all animals showing symptoms of this, by coughing, staring coats, etc., should at once be shot and buried.

Typical wapiti, however, have fewer points than red deer, while the points themselves have a way of curving outwards, which, although difficult to explain in writing, is very characteristic and at once recognized as distinct from those of red deer, also the upper points often are in the same plane fore and aft instead of coming out laterally, but I find a marked tendency for the horns to get *more like red deer*, after a few generations bred in England.

If the wapiti is wanted for crossing with the red deer it is important to choose a "bull," as the stags are called, whose head approaches most nearly to the red deer type. I have been fortunate enough to get such a bull, and the head of a four-year-old cross between this wapiti and a red deer hind (shown on page 34) would be difficult to distinguish from a very fine pure-bred red deer head.

On page 104 I give a photograph of a three-year-old stag which has red deer, wapiti, and Altai blood ; this animal being by an Altai stag, out of a cross-bred wapiti and red deer hind. This stag and a

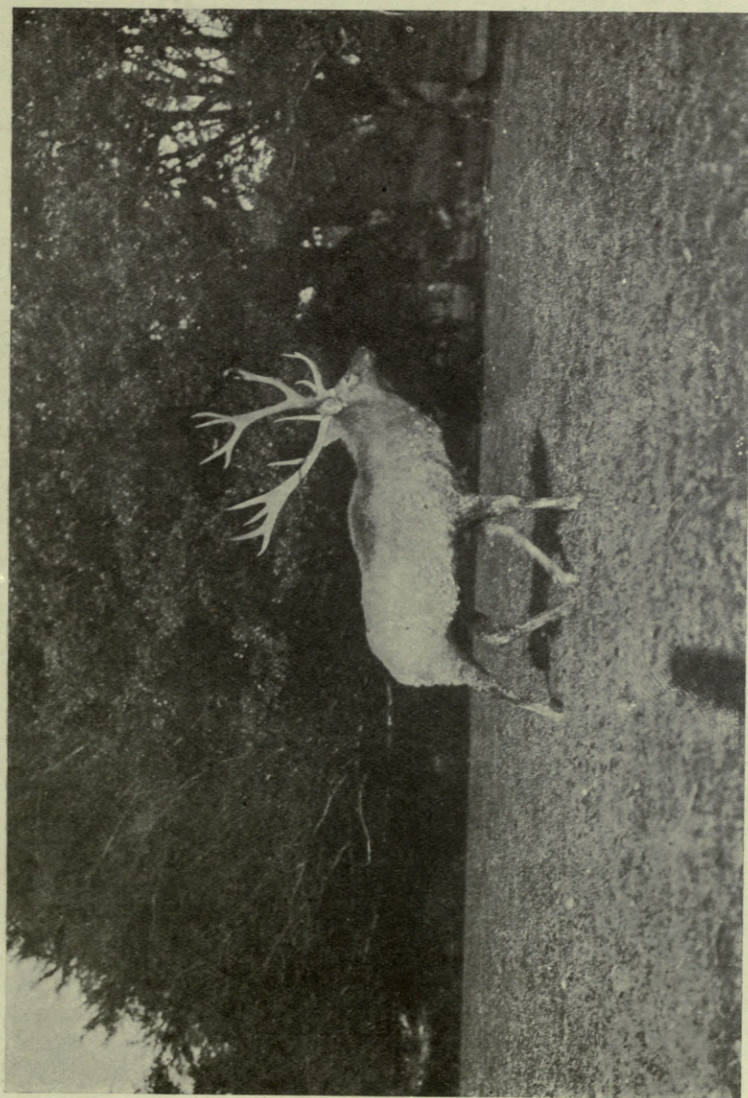
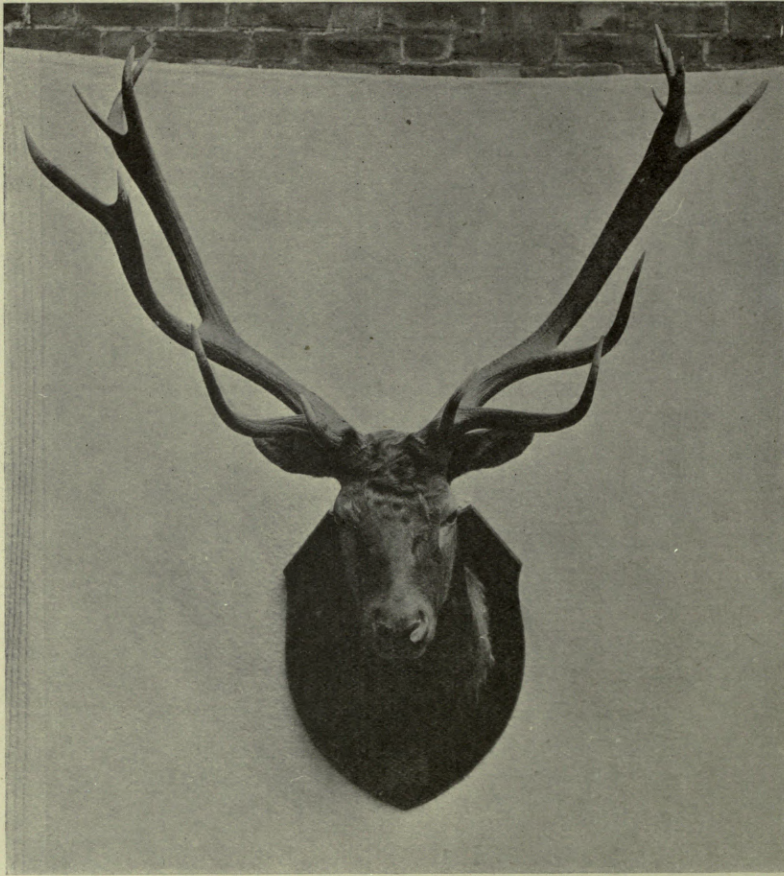


Photo by the Author.

WAPITI STAG.

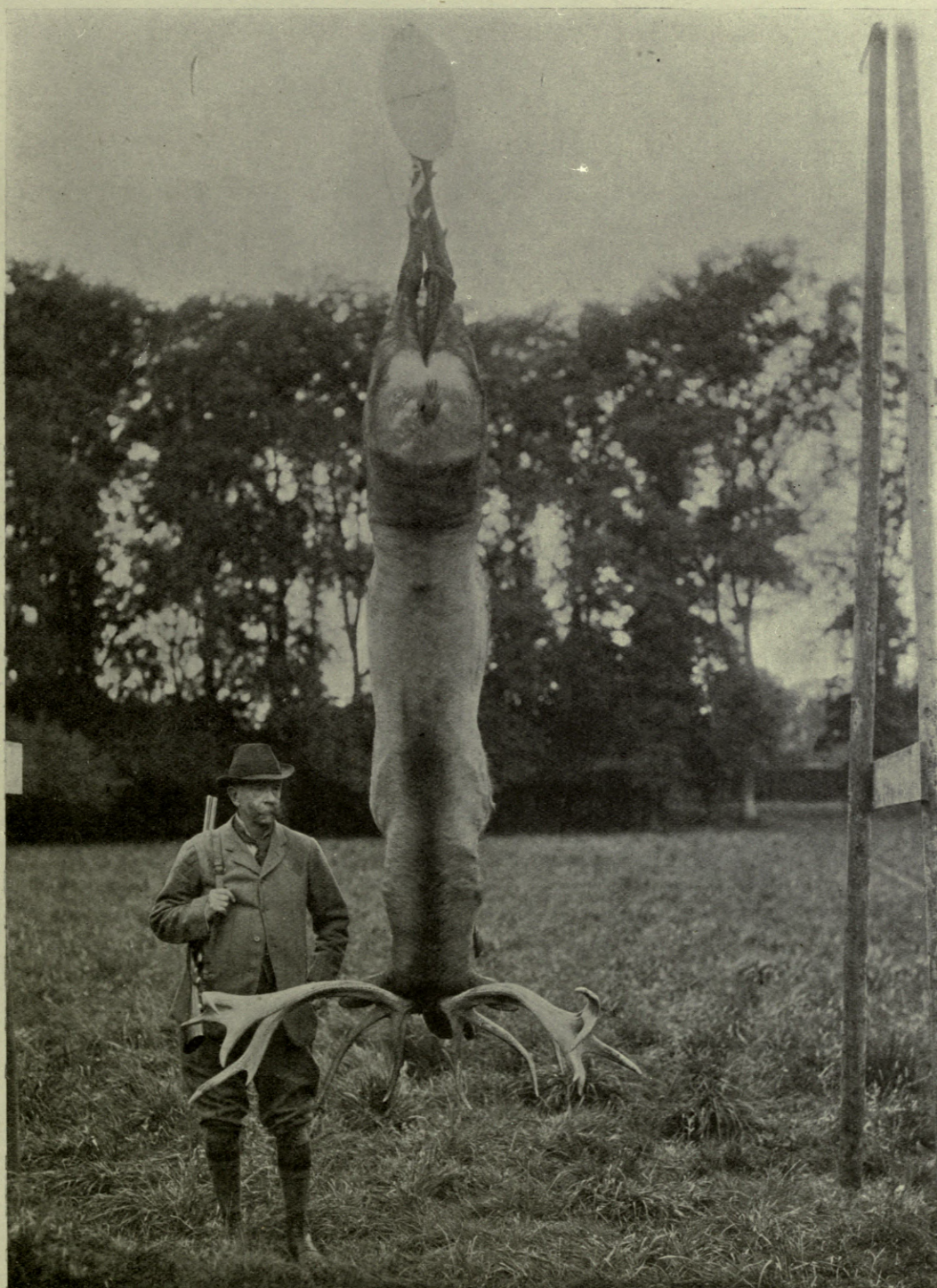
similar bred yearling are the two biggest, for their age, of any deer other than pure wapiti I have yet bred, and seem to be the best type. As already mentioned, I have now a herd of this triple cross.

Although I have not tried putting a red deer stag with wapiti



WAPITI STAG.

hinds, I think this would not be practicable, owing to obvious considerations in respect to size. It is important not to put too old or too big a wapiti bull with red deer hinds; though such a procedure does not matter so much in the case of half-bred red-deer-wapiti hinds or with Altai-red-deer cross-bred hinds, as these are so much bigger than true red deer hinds.

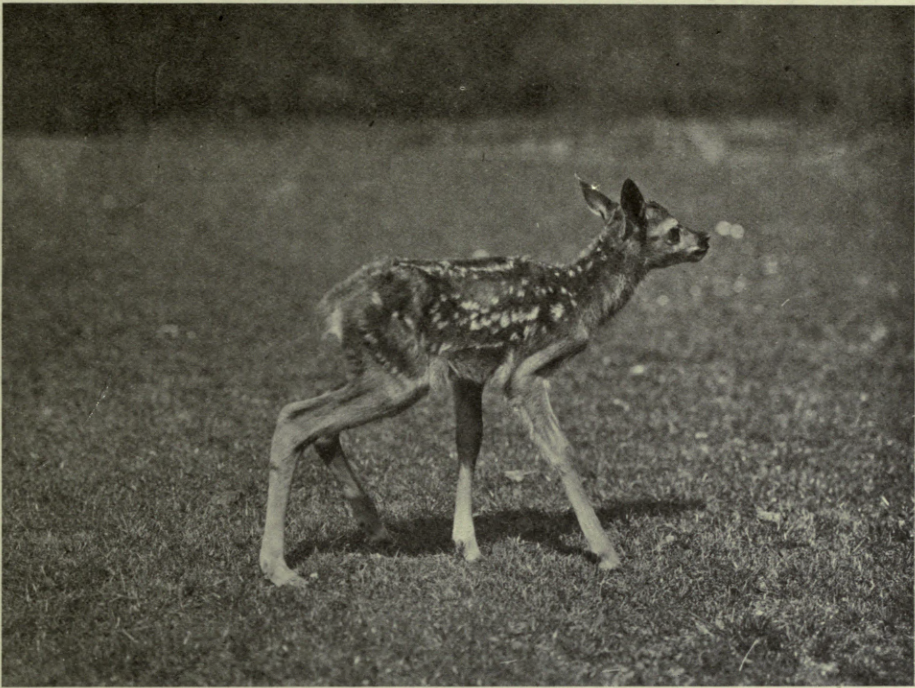


WAPITI.
Weight 710 lbs.

Care must be taken, even more than in the case of red deer, that wapiti are not in a place where they may be dangerous to passers-by, as even the hinds, or "cows," as female wapiti are called, are very dangerous, rearing up on their hind-legs and striking out in front, when by their weight and strength they can easily kill a man. The cows are very apt to attack people coming near their calves.

On one occasion a curious accident happened in one of my wapiti-paddocks.

A two-year-old bull had been shut off from the larger paddock which a big sixteen-pointer wapiti bull occupied with his cows. Although the fence was a seven-foot wire one, the two-year-old bull jumped over into the big paddock, and repeated the performance when he was put back. It was a difficult jump, as he could get no run at it, and the take-off was in sticky deep mud. He had been separated from the big bull because the latter had injured him in trying to drive him from the hinds, and I do not understand why he wanted to get in, as he was afraid of the big bull. The big bull also tried to get at the Altai stag, who was in another paddock with a narrow footpath between. As the wapiti and the Altai kept threatening one another each side of this footpath, I had wire-netting put along each of their fences in order to prevent their getting the points of their horns through and frightening people passing along the footpath. The wapiti managed, however, to loosen the wire-netting, and tore off some ten or twelve yards of it, so that one end got fixed on his horns. Just then the two-year-old wapiti made his third and final jump into the big paddock, when he met the big wapiti bull, and somehow, either by accident



WAPITI CALF, TWENTY-FOUR HOURS OLD.

Photo by H. Penfold.

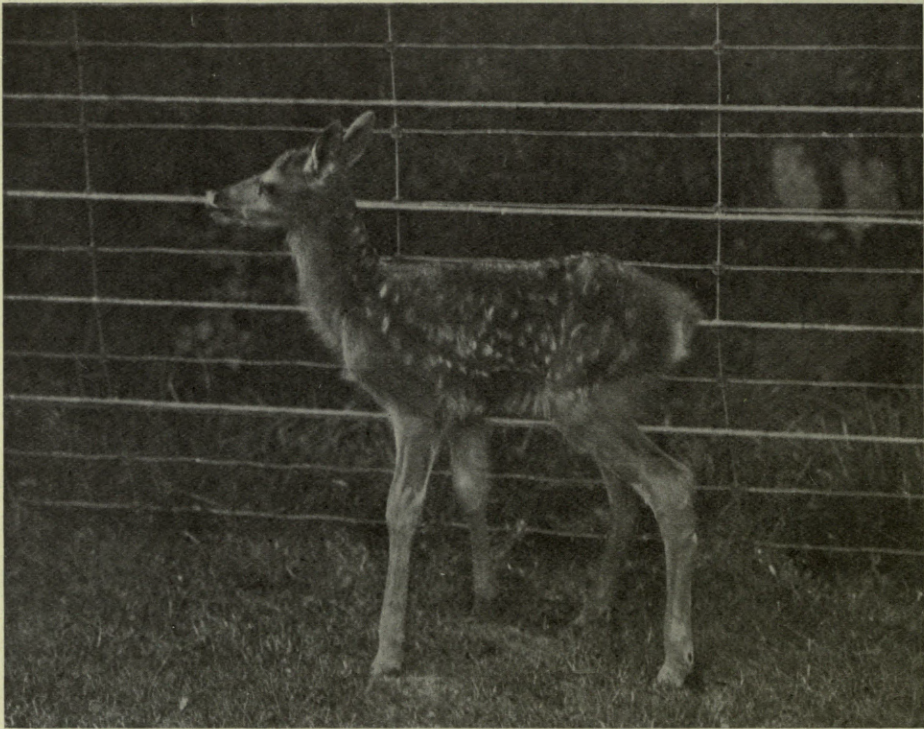


WAPITI CALF, TWENTY-FOUR HOURS OLD.

Photo by H. Penfold.

or in trying to play with the wire-netting trailing from the horns of the other stag, contrived to get his own caught in the other end of the netting.

He and the big bull then waltzed round each other, getting their horns more and more tangled up in the netting, and their heads consequently nearer and nearer each other. The big bull



THREE-DAYS-OLD WAPITI.

Photo by H. Penfold.

finally got his horns into the flank of the two-year-old; then, breaking all his ribs and his back, he killed him, after which he started backing and pulling the dead body all over the paddock.

My men were unable to separate the living from the dead deer, and finally had to chop off the horns of the little bull, at the risk of their lives, while the big one kept charging at

them. The latter carried the wire-netting and the two horns of his dead rival for some months till he shed his own horns.

This shows not only how important it is not to let two stags be together in one paddock, but also that there should never be anything like wire-netting, rope, coiled wire, or sacking left lying about in which a stag can entangle his horns.

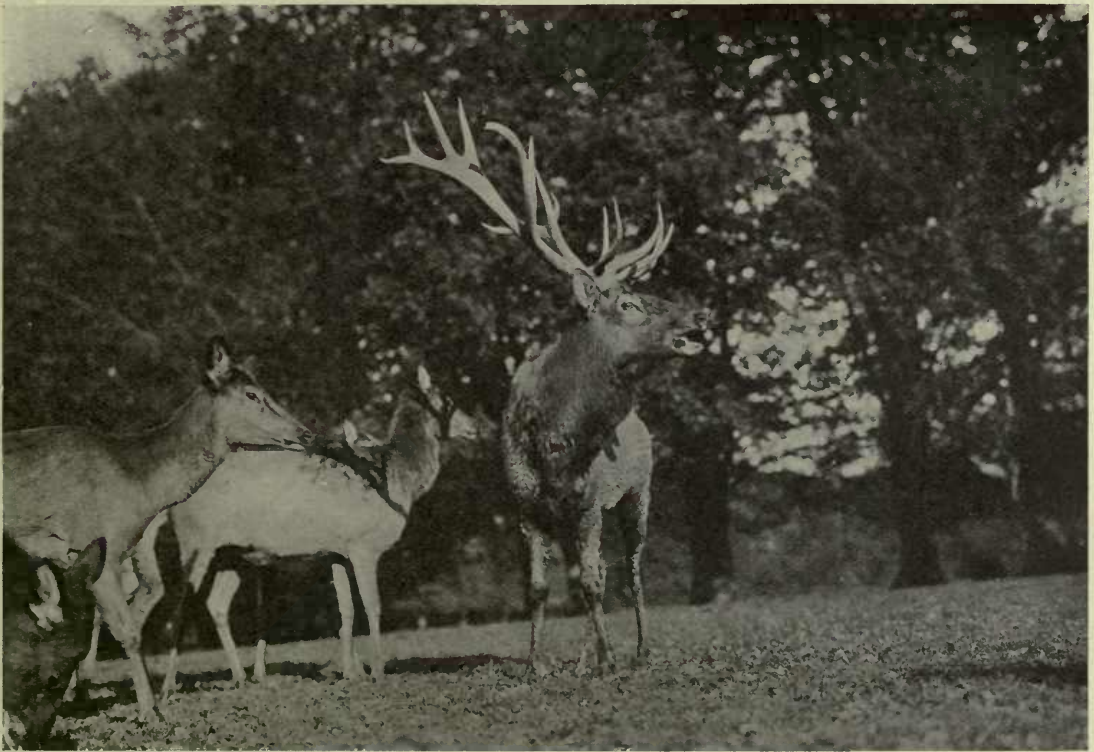


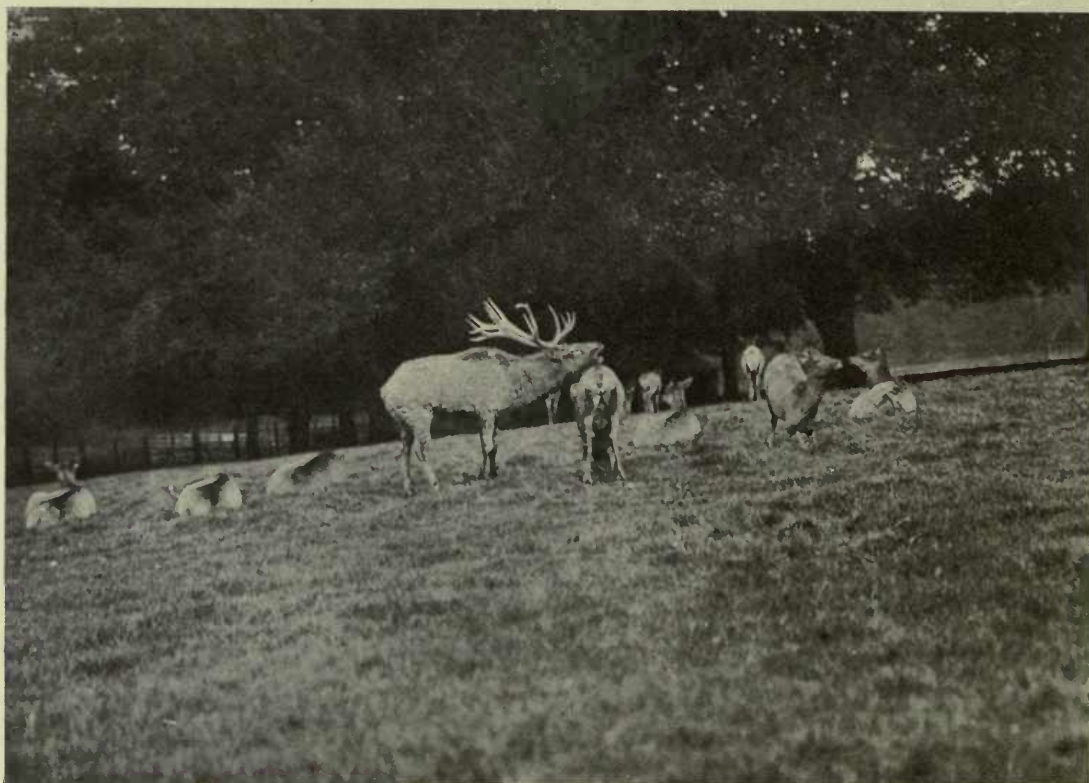
Photo by the Author.

WAPITI STAG ROARING.

I have known fallow bucks killed by barbed wire being left lying in a coil, and even getting hung by a child's swing in a tree.

At the commencement of my experiments with wapiti, I found the proportion of female to male calves almost five to

one; and during the first few years I got very few male calves, and when any calf died it was generally a male one, this being just the reverse to what otherwise is the case of the sika deer, in which a large proportion of the calves are males. As I considered this might have been owing to the



HERD OF WAPITI, STAG ROARING.

Photo by the Author.

bull wapiti I had so far used, I shot him and tried another and younger bull of a different family, and now almost all the calves are males. This looks as if an old male breeds female offspring and a young one males. In England it is very difficult to buy wapiti which have not got a consumptive taint; and I have heard that most people who have tried to breed

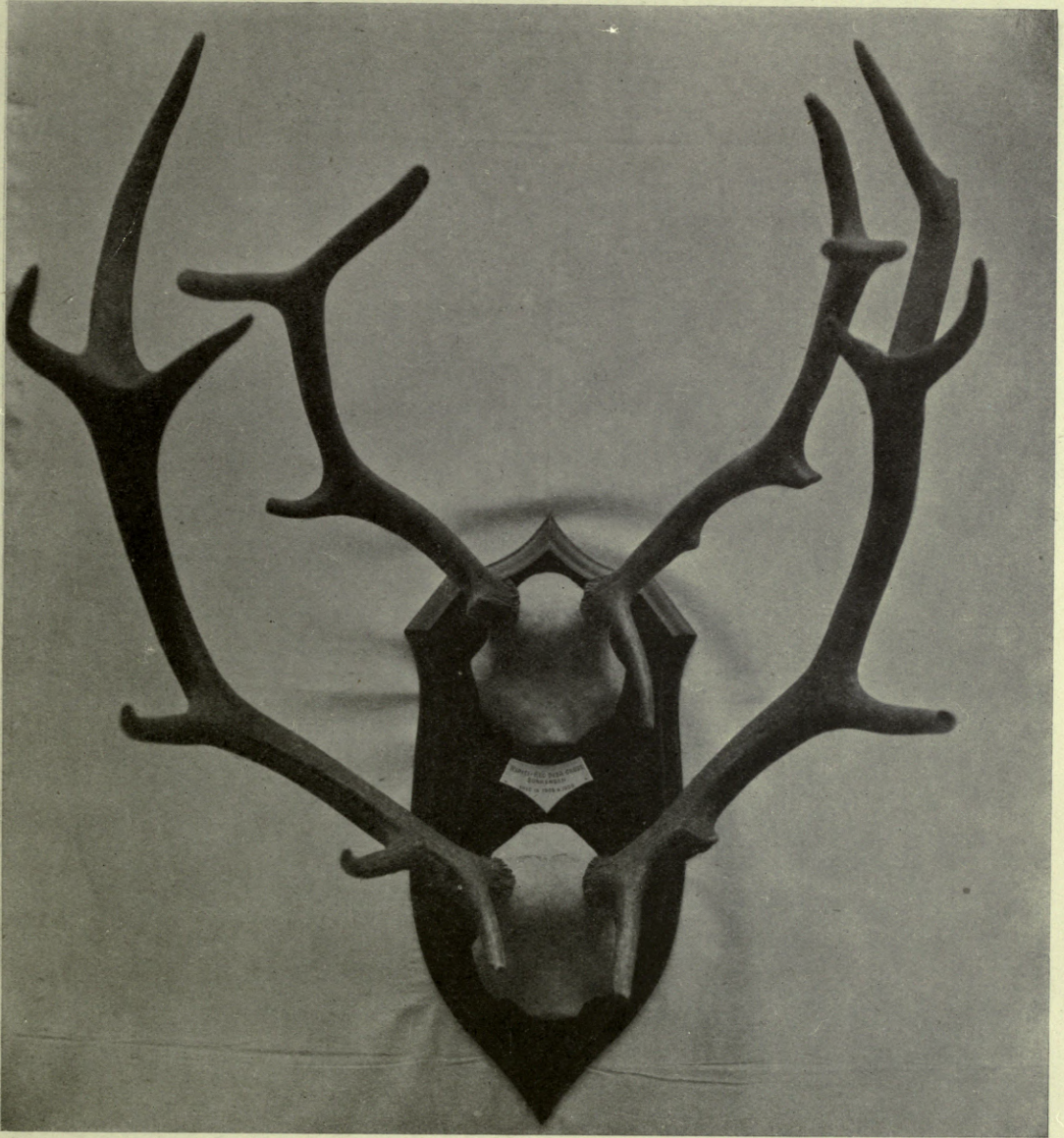


Photo by H. Penfold.

WAPITI (IMPORTED) SHED HORNS.

their deer in England have failed, but so far mine have been very healthy. I have only had to shoot one bull on account of lung-trouble, and two cows (mother and daughter) for deformed feet.

The roar of the bull wapiti is quite different from that of

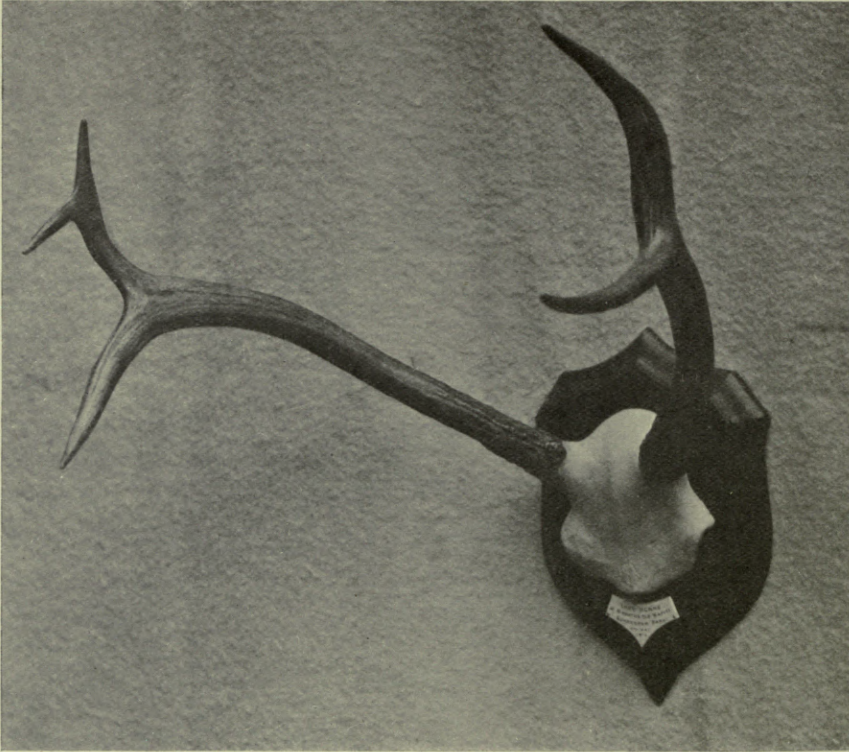


Photo by H. Penfold.

EIGHTEEN-MONTHS-OLD WAPITI SHED HORNS.

This head of five points is a record for that age.

a red deer stag, being much higher and going off into a high harmonic note. The wapiti-red-deer cross begins with the red deer roar and ends in the wapiti whistle.

Wapiti are very dangerous at all times except when their horns are shed and till the velvet peels off; at other seasons they follow one along the fence, when one is outside, curling

up their lips and grinding their teeth, and whenever there is not a post between them and an intruder they charge against the wire fence;—they know by experience that they will hurt themselves if they charge at the posts.

The wires of the fence must be exceptionally stout, as a wapiti is so strong and heavy. The big bull I shot weighed 710 lbs., and he was thin after the rutting-season; an Altai-wapiti weighed 800 lbs.

The cross between the wapiti and red deer makes a fine stag. One I shot when he was only a four-year-old weighed 484 lbs. His sister (I bought the two from Hagenbeck and did not see their sire or dam) is quite a small hind, hardly larger than a pure red deer, but her calves when bred to wapiti bulls are very big. These deer are described in the next section.

One of my wapiti bulls, illustrated on opposite page, had five points (2 and 3) for his first set of horns, and his next antlers had twelve points; and I have a royal, almost typical red deer type, in a two-year-old wapiti bull.

COLOUR OF RED DEER

I HAVE often noticed that there are at least four colours amongst red deer stags.

There are the dun-coloured stag, the bay stag, the dark stag, called the black stag by foresters, and the grey stag.

Some of this difference in colouring may of course be due to the stags rolling in peat, but still, when a herd comes past in a drive or is stalked, one indicates to the forester the individual stags by their colours quite as much as by their heads, when selecting which to shoot.

Comparing these with any cross-bred deer, the bay-coloured approaches the wapiti-red-deer cross, and the grey the Altai-red-deer cross.

As Shakespeare writes of the "dun deer," this would seem to be the original English breed, unless, indeed, he is referring to fallow deer of the non-spotted variety.

Individual wild red deer are difficult to recognize again in a large forest, but I think they must vary like fallow and sika deer, so that one could, if it were desired, produce a breed of dun, dark, or grey (or approximately that shade) by breeding for these colours. The typical red deer is, I presume, the one with a grey head, black neck, and red body.

I have noticed that the red-deer-Altai cross gives a much more dun body and less black or grey on the head and neck than a pure-bred red deer.

WAPITI-RED-DEER CROSS

A BIG full-grown wapiti bull, as already mentioned, should not be put with red deer hinds, as he is too big and heavy; and it is impracticable to cross a red deer stag, however big, with the long-



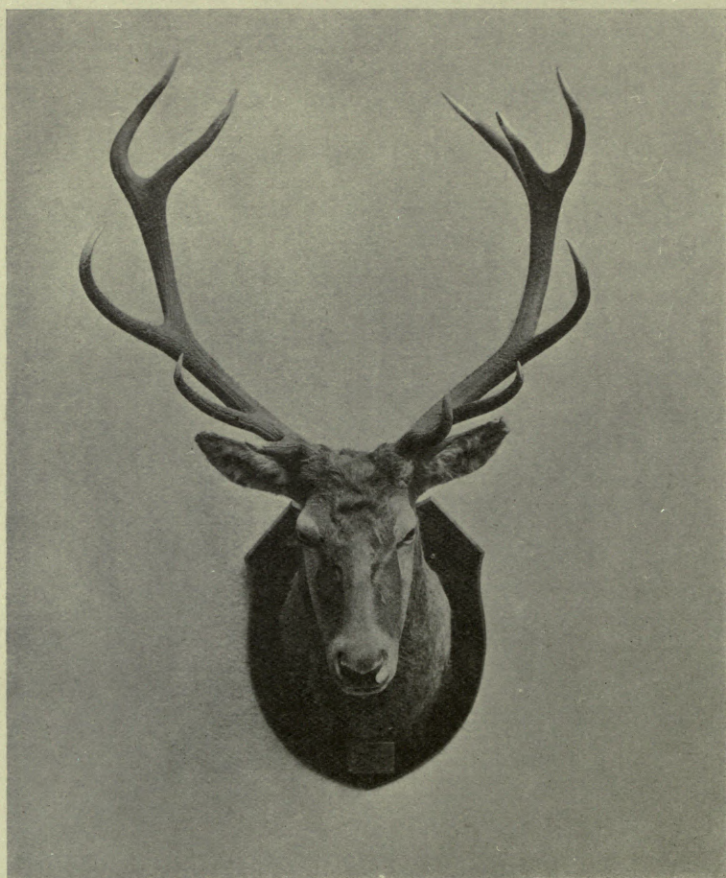
FROM LEFT TO RIGHT: WAPITI-RED-DEER, WAPITI, ALTAI-RED-DEER.

legged wapiti cows, as even a two-year-old of the latter stands high above the red deer stag.

For breeding purposes, a young wapiti bull, two or three years

old, small but not weakly, should be chosen and put with the largest red deer hinds.

The resulting cross, if a stag, is the best for future use with red deer, as he is nearer their size, and the rutting-season is at the



WAPITI-RED-DEER CROSS, BRED AT SURRENDEN PARK.
Showing red deer type of head.

same time: with the wapiti in this country the latter begins earlier, but my own wapiti roar all the winter.

If the calf resulting from this cross be a hind and relatively small, it is not necessary to discard her for this reason; my best cross-bred

wapiti-red-deer hind, which so far is producing exceptionally big calves, being a small, by no means sturdy-looking, animal scarcely bigger than a pure red deer hind.

Although she seems to take most after the red deer, all her



CROSS-BRED ALTAI-RED-DEER.

calves (she has had five so far, three of them being stags) are big strong deer, almost as large as wapiti; in fact, when eight months old they were almost as big as their dam. All these calves are by an Altai stag, so that they are wapiti-Altai-red-deer hybrids—a cross, I believe, never previously attempted.

The bull calf, who is now rising three, is a very fine stag for his age, with rather a Roman nose; why he has this I do not know, as none of the deer from which he is descended show this feature. I have an idea of crossing him with a breed of deer different from any of the above in order to ascertain if all kinds of round-horned deer are fertile amongst themselves.

In making these experiments it is important to have all the deer ear-marked, and descriptions of each recorded in a book, as otherwise it becomes impossible to know, except by very careful examination, with what animal any particular deer has been crossed.

By constantly seeing them I am, however, able to identify the individual deer in my own paddocks.

The oldest of this triple cross looks the finest, healthiest stag I possess, although he is, of course, not so big as the pure-bred wapiti or Altai stags; his colour is more the dun of the wapiti than the orange or red of his two other ancestors. I believe that in this triple cross I have come nearest to the original ancestor of the deer family, the "cave" drawings representing Roman-nosed deer. He is at present a royal.

I have imported some Russian red deer as being larger than the Scotch, and have also crossed the half-bred wapiti stag with red deer from Warnham Park in order to try to get as many points as possible. I find the Warnham hinds give the best heads, as indeed might be expected, since they are specially bred for heads. I have a four-cross stag calf, wapiti-Altai-red-deer and maral, and intend to cross this with a sambar hind.



Photo by H. Penfold.

ALTAI STAG'S SHED HORNS IN SUCCESSIVE YEARS.
(Points of horns worn by rubbing against wire fence.)

ALTAI DEER (*Cervus canadensis asiaticus*)

ALTAI deer resemble the wapiti closely, but are not quite so big, the horns being less like those of a red deer. I have not yet been able to get a satisfactory red-deer-Altai cross. From the point of view of getting an enlarged red deer, the photograph of a four-year-old stag of such a cross is shown on page 15. Such a hybrid ought to be a good one to cross with the wapiti in order to eradicate the tendency to consumption and bad feet developed by pure-bred wapiti in the English climate.

The hinds of the red deer and Altai cross are exceptionally hardy and strong, and should do well in a Scotch deer-forest, if the type of head in the stags resulting from the introduction be not objected to. Most likely, however, the next cross with the red deer would obliterate the peculiarity.

The objection to the head of the Altai stag, at any rate in the case of the one in my own possession (see page 39), is that there is not sufficient spread or sweep to the horns, which come rather close together, and have only a slight curve. So far as I have experimented, this does not look very encouraging in the matter of improving the red deer. Altai deer are more difficult to get than wapiti, and are not so big or handsome.

I have just had to shoot the Altai-red-deer stag illustrated on page 15, on account of his "head" being so narrow.

Still, as stated in the section on the cross-bred wapiti-red-deer, my

stags of the triple cross (Altai-red-deer-wapiti) seem the healthiest and strongest that I possess, and also appear to have more bone for their size than any other breed of deer I have ever seen, in fact bone more like that of a horse. Hence they may prove the most suitable type to turn out in Scotland to withstand the damp climate, which may be



ALTAI STAG.

unsuitable to pure-bred wapiti. I have quite a respectable herd of this triple cross, and they interbreed well, so I have got a fixed type; the coat is shorter and more like a horse's than any of the parent species, and the colour greyer.

It is to be feared that the wapiti will become consumptive in

Scotland ; cold dry weather he can stand, but not wet, at least that is my experience in this country. On the other hand, the Altai deer seems to enjoy wet ; he spends most of his time in his pond, and his one thought day and night seems to be how to get out of his paddock and thrash the wapiti stags.

It may be possible to get Altai stags with better-shaped horns than mine, and if so the objection to the species for crossing purposes will disappear.

Hitherto I have not seen any Altai hinds, but only half-bred red deer and Altai, and these are not so big as the wapiti-red-deer hinds.

I have indeed some calves, both male and female, three-quarters Altai (by this stag), and one-quarter Russian red deer, and others three-quarters Altai and one-quarter German red deer, but all of these are too young to show if this cross is a success so far as size of heads is concerned.

I feed all my paddock-stags, as soon as they have shed their horns, on bone-forming materials in the form of pills put into their mangel-wurzel by boring holes, and continue the supply until the velvet is off their horns and the latter have ceased to grow. This is essential on account of the fact that the deer are kept in a confined space, where they cannot get enough lime.

Hinds in Scotch deer-forests gnaw the cast horns, or even those of living stags, in order to get lime for bone-forming.

I also give a quantity of molassine meal to all my paddock-deer, which I find very good for them ; and if the deer are cold and wet it prevents their coats staring.

The roar of the Altai stag is rather like that of the wapiti, but a little nearer that of the red deer, being not so high and shrill as the

call of the wapiti; stags of the wapiti-red-deer cross roar almost like red deer, but slightly higher in key and not so loud, and ending in a whistle.

I have not hitherto heard the Altai-red-deer roar, as they are still young, and therefore afraid to roar within hearing of the bigger stags.

A peculiarity of the Altai stag I have not observed in any other

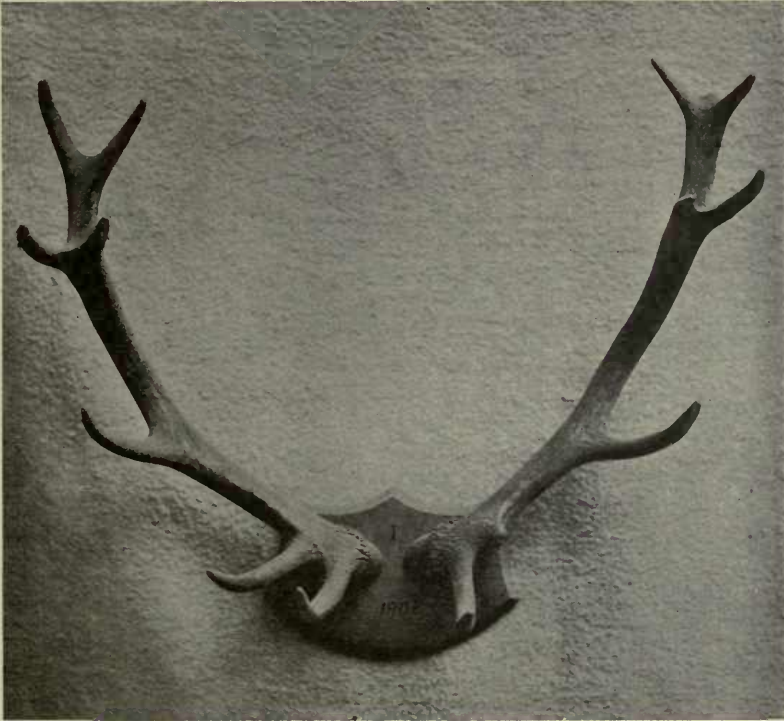


Photo by H. Penfold.

ALTAI STAG SHED HORNS.

species of deer is that he chases the hinds about his paddock at times other than the rutting-season.

I have often of an evening seen him chasing them round and round till he becomes quite exhausted, with his tongue hanging out, seemingly only for the fun of frightening them and making them run, but it may be that he is trying to separate them from the stag calves, and that he would succeed in so doing if in the open.

ROE-DEER (*Capreolus caprea*)

ROE-DEER do not thrive well in parks. There are two varieties at least, namely, the ordinary red-coloured roe and the black German roe, which is entirely black without any white rump-patch. The giant Siberian roe is a distinct species, which unfortunately will not live in the English climate, and which I find impossible to rear here, while I hear that they are not a success in Germany.

In Scotland a few Siberian roe-bucks turned out might perhaps improve the heads of the native breed, but in this case, as in all others where a stag or buck is turned out, it is most important that this should be done at the season when the horns have been shed and the new ones are only just sprouting, otherwise the new-comers will be set upon and killed by the native bucks. If, however, the new-comers are given an opportunity of mingling with the others while their horns are soft they stand a much better chance of holding their own during the rutting-season. It is also advisable to kill off all the old and big bucks of the native stock before turning out foreigners, so that the latter may be the biggest males on the ground, and therefore capable of defeating the others.

In Scotland roe-deer are considered of little account, and are often bagged with the shot-gun in covert-shooting, nothing being thought of the heads. On the Continent, however, and especially in Germany, Austria, and Hungary, a good roe-head is almost as much prized as a good stag's head, and there are prizes given for roe-heads at all the Sportsmen's Exhibitions.

Continental roes have much better heads than the Scotch.

In judging roe-heads the principal thing looked for is length, strength, and roughness of horn, and plenty of pearl at the base. The points in a full-grown roe-buck head are almost invariably three on each horn, there being no brow, but a point which corresponds nearest to the bay-point of a stag, although slanting upwards at about forty-five degrees, and a fork at the tip.

Sometimes a roe-buck does not seem to lose his velvet, but develops a thick mass of this growing over and between the horns; this is called a "perruque-head."

A roe, like any other deer, if gelded does not renew his horns, or if he has his horns at the time, they remain as they were when he was gelded, either in velvet or clean.

SIKA DEER (*Cervus sika*)

THERE are several varieties and races of sika deer; one, which may be the Chinese form, is very small, cobbly built, with short legs, perfectly white rump, and very fully spotted coat, the stags having what my deer-keeper calls "monkey-faces," while the growing horns have a reddish skin instead of true velvet.

There is another very similar variety which is darker in colour and without spots, with blackish velvet; and a third kind coming from Manchuria, which is much bigger, being as large as a fallow deer, with dark reddish skin on the horns when they are "in velvet." The latter species is very savage, so that great care must be taken when they are in parks; I have had to shoot several of mine for attacking people and horses, or for killing sheep.

A cross with the Manchurian very much improves the size and head of the ordinary sika. None of these deer have more than eight points, or very rarely. By killing off all the pure-bred Chinese sikas and leaving only the cross-bred Manchurians I am gradually evolving a big breed in my own park.

MANCHURIAN SIKA (*Cervus manchuricus*)

THE Manchurian is a much larger deer than the typical Chinese and Japanese sika. The pure-bred Manchurian stag (I have never seen a hind, which seem very difficult to get) is much longer in the leg and



MANCHURIAN SIKA, RECORD HORNS.

heavier than any other sika; and as he is unfortunately very bad-tempered as a rule, I think a herd would be at least as dangerous as red deer. The cross with the smaller sorts of sika seems, however, to be as good-tempered as the small ones themselves, and improves their size, especially as regards the heads.

I have not been able to breed many points with sika; the normal full-sized head being almost always eight points, although sometimes a very small additional point makes a nine-pointer. One ought to be able by selecting a very small red deer stag to form a cross with the sika (if they will breed together, which I have been told they will, although I cannot say so from my own experience), and then trying to breed out the red deer type, with the exception of the number of points. By this means we might get a sika which should have as many points as a red deer and ultimately develop a "royal" head.

This would make a very pretty breed for a park not big enough to carry red deer.

In the case of all sorts of deer which have spots in the summer it is very difficult in winter—the usual time to shoot off deer—to distinguish those which are of the fully spotted type from those with few spots, all the deer of temperate climates losing most of their spots (if they have any) when in their winter coats. It is, therefore, safer to kill off the colours one does not want in the middle of summer, when it is easy to decide to which type the deer belongs.

FALLOW DEER (*Cervus dama*)

FALLOW deer are usually divided into three varieties, the light-coloured, the black, and the white. Personally, however, I divide them into at least ten varieties, the "points" of which are enumerated below. As there are no names for these various varieties, or rather sub-divisions of the usual varieties, I have invented the following titles for them.

No. 1. "The Spotted."

This variety should be fully spotted, but since in deer-parks generally the deer are allowed to interbreed indiscriminately, while when shot it is the fattest that are selected for the table, or the best head chosen for the wall, the "Spotted" variety has become deteriorated. The following are its points :—

Colour as bright an orange as possible, belly, legs, rump, and throat white, no stripe down the back, or if a stripe be present it should be as faint and light in colour as possible; the stripe down the tail also very faint, the neck as near orange as possible, very little grey about the head, body spotted as much and as evenly with as big white spots as possible, and a distinct white horizontal line along each side. Horns, when in velvet, covered with light French-grey coloured velvet (in all varieties of fallow deer the horns to be as large and palmated as possible), and with the back-point well developed. As the result of in-breeding, in many parks

the horns of fallow deer have almost lost their palmation and also the back-point.

No. 2. The "Light Bay" variety.

This variety is generally more slightly built than the others,



Photo by H. Penfold.

LIGHT-COLOUR FALLOW DEER, RECORD WEIGHT OF
TWO HUNDRED AND EIGHTEEN POUNDS.

Bred by the Author.

and is of the colour of a light bay horse, with the legs, belly, rump, and throat white, a chestnut stripe down the back, the sides of the rump and along the tail light chestnut, the neck and much of the face grey to black, and no spots or stripes on the flanks. The horns when in velvet vary in colour, but are never of the pearly French grey of the "Spotted" variety.



FALLOW DEER.

No. 3. The "Brown" variety.

This, which is the type found in some Scotch parks, as, for instance, Drummond Castle Park, is a very large variety, with a bay-brown coloured body, whitish grey about the belly and rump, grey



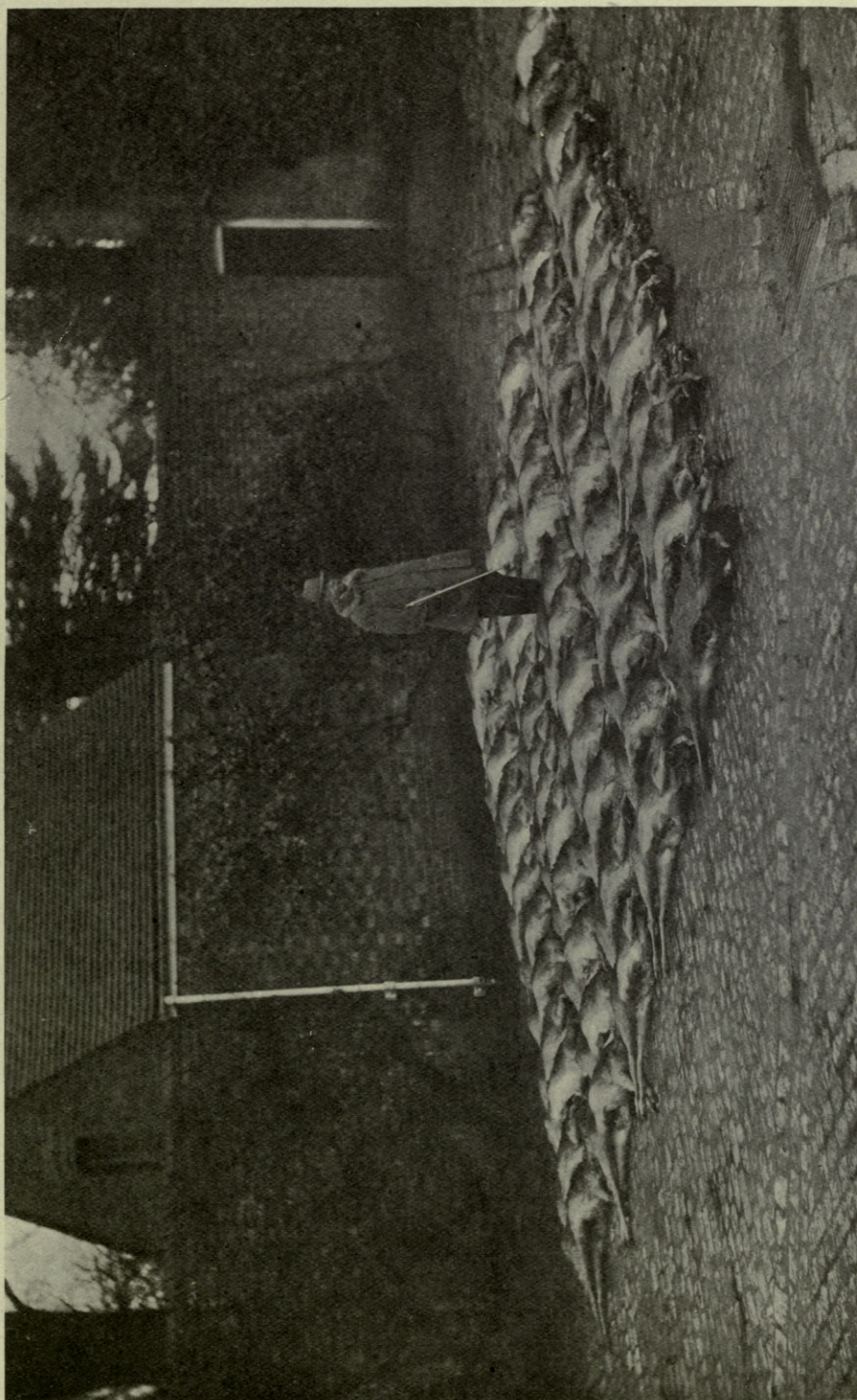
RECORD WEIGHT BLACK FALLOW BUCK. SHOT BY AUTHOR
IN SURRENDEN PARK.

Weight 222 lbs.

legs, dark neck and face, a blackish brown stripe down the back and along the tail, and no spots, horns when in velvet a dark greyish brown.

No. 4. The "Chestnut" variety.

Dark chestnut (*alezan brûlé* in French), the whole of the animal being of the one colour, legs and all, the neck alone slightly



AUTHOR'S ONE DAY'S BAG OF FALLOW DEER, SEVENTY-SEVEN HEAD.

darker, and black about the head; no spots, a black stripe down the back and along the tail, build rather slight, horns covered with black velvet.

No. 5. "Grey."

This is a very pretty variety, the colour being silver grey all over. When in velvet, the horns are of the same silvery grey. I think this variety could be bred with white spots and white side-stripe, but at present I have only the solid colour, French grey.

No. 6. "White."

This deer must be pure white without any other colour whatever, the horns being very pale pink grey when in velvet.

No. 7. "Cream Colour."

A pale cream all over, with a slight tendency to a back and tail stripe of brown, horns in velvet slightly darker than in No. 6.

No. 8. "Black with white legs."

The whole animal as black as possible, but with the legs from the knees and hocks nearly or quite white; horns in velvet very dark grey.

No. 9. "Black with white spots."

This variety, which is the most rare of all, ought to be as black as possible, no white appearing except in the spots, which ought to be very numerous, large, and evenly distributed; no side-stripe, and the velvet on the horns black.

No. 10. "Black variety."

As black as possible, with no white anywhere, the horns in velvet also black. This is the most hardy of all the varieties, and grows to the largest size.

The new-born young of all the varieties are fully spotted.

If round-horned and palmate-horned deer are kept in the same park, they do not mix or interbreed ; red deer and fallow deer do not cross, or fallow deer and sika deer, but it is impossible to keep several varieties of fallow deer pure in the same park, unless it be divided into sections so that the various herds cannot mingle.

It is necessary therefore to decide what variety is desired, and keep to that type by shooting off all that vary therefrom.

I do not know any place where a herd of any of these types, except the black, white, brown, or mixed spotted, can be seen.

By mixed spotted I mean, not the pure spotted, but deer combining the characteristics of the spotted, brown, chestnut, light bay, etc., being such as are bred at random.

After the type has been decided on, go out with a Zeiss glass or telescope and look over the herd and decide which ones you want to keep, and then have them caught.

This is one way, but fallow deer are very bad to catch, as if they are hustled much before they are caught they are very apt to die directly afterwards, and it is very difficult, if not almost impossible, to catch any individual deer out of a herd, especially if they are in a big park with a lot of covert.

The better way, if you have a herd and want to divide it into several varieties, is to get its members into as similarly coloured groups as possible and place them in separate enclosures, and then gradually to kill off those not corresponding to the type you want. You may, for instance, desire a herd of the spotted variety, and want, say, a herd of a hundred, and have at present only a hundred of all colours. As it does not do to thin the herd down too much, wait till the hinds have dropped their fawns, and the latter are old enough to take care of

themselves, when a herd of a hundred will have about thirty or forty fawns. . You can therefore kill off thirty or forty deer without making the herd too small.

First shoot all the bucks which are not of the exact type of the spotted variety; if you have only one or two bucks really right, let the rest you keep be as near as you can get them to the required standard. A white deer, for instance, does not matter so much, as he will infuse lightness, and I think also spots, into the herd. Indeed I attribute the very fully spotted deer in my own herd to a white buck I bought and turned out among the rest, as before this there had been only one well-spotted deer, and that an old doe which never threw a good-coloured fawn.

All the black deer should be killed off, both bucks and does, as the black variety is the most antagonistic to the spotted type. The chestnut also is bad.

The best to keep, especially if does, are the dun, bay, and brown, but the bay for preference.

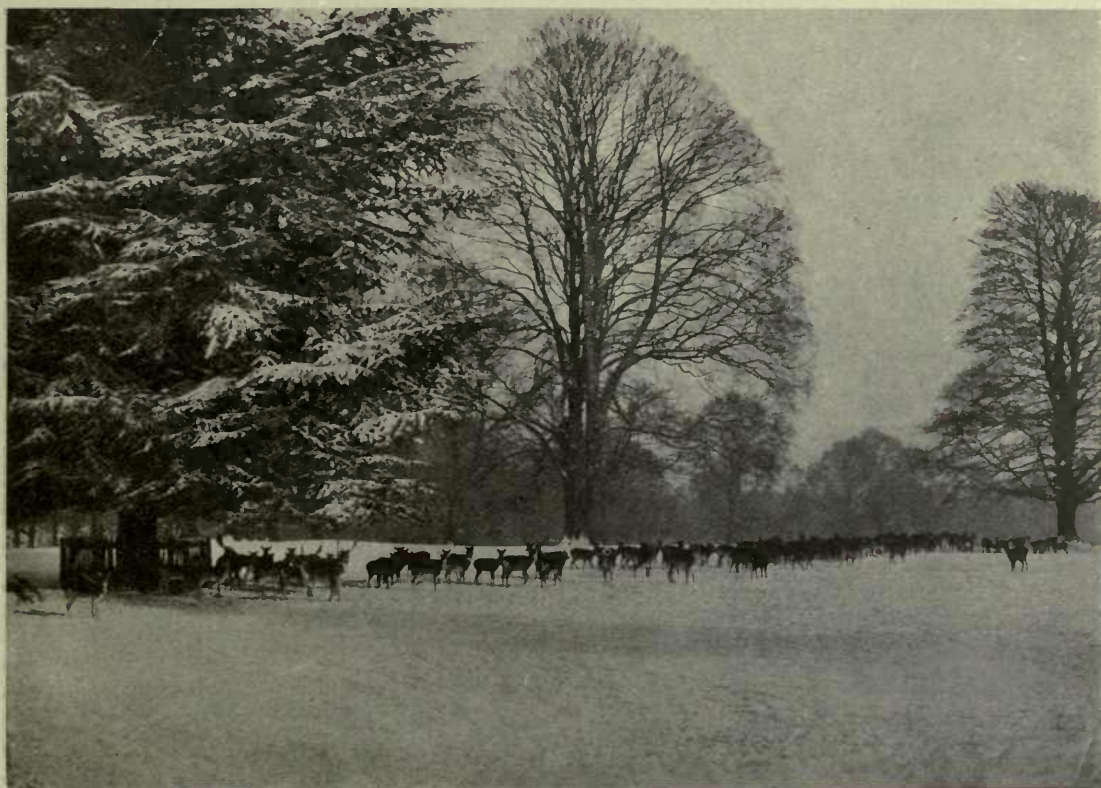
Of course, all fawns of a bad colour must be shot at once.

As soon as possible get the bucks of the right colour; for it is far better to have only a few just of the right colour, even if there be not more than three or four for the whole herd, than a lot of badly coloured ones. It is equally important to gradually kill off the worst-coloured does each year, taking special care to get rid of every chestnut deer, and shooting every fawn that shows the least tendency to bad colour.

Then, as you slowly get all the deer spotted, keep killing off those which are the least spotted or too dark, and retain only the most perfect specimens among the bucks.

In this way you will finally get a well-matched herd. Similarly for a black herd, kill off every buck who is not a jet black, and then in subsequent years begin weeding out all but the blackest does.

This plan of fallow-deer breeding takes time—ten to fifteen years or more—owing to the circumstance that as the deer have always



FALLOW DEER IN SNOW.

Photo by the Author.

been allowed to breed at random, they all have mixed blood, and consequently a bad-coloured one may turn up in the shape of a fawn whose sire and dam are both perfectly coloured.

Care must be taken not to keep a good buck too long in the herd, as there is a natural inclination, if a buck be just of the type one wants, to keep him as long as possible to perpetuate his type.

When a buck gets over a certain age, especially if he has been wounded in fighting, he begins to get timid and to avoid fighting; so that the very buck who a year or two before was master of all the rest, and could choose as many does as he liked, becomes too timid to risk a fight, and is consequently driven about by all the other bucks, even by those smaller than himself.

A buck may be turned out at the beginning of the rutting-season if he is later than the rest in shedding his velvet, and his horns are consequently still tender. When his horns are hard, he may become the master-buck. Therefore do not shoot a good buck till you are sure he is of no use.

The aforesaid timidity is first noticeable when the deer are being fed. If a buck, however big and suitable in other ways, begins to let himself be driven away from his food, unless he is late in shedding his velvet, he is best shot, as he will be of very little use for breeding.

I think the reason for this change of temperament is that the animal is getting weaker, and finds he cannot hold his own against other bucks, either from age or because he has been wounded.

In fighting, the great thing is for a buck to keep his antagonist from taking him sideways: being pushed straight back does not so much matter, so long as the one being pushed can keep his feet, but if, from a slip or from unevenness of ground, he turns the least bit sideways to his antagonist's push (there is very little charging, and it is generally simply a pushing match), he gets slewed round, and then if he cannot get clear he receives a dig in the ribs or flank which may be fatal, or at least make him a



A DAY'S BAG OF FORTY-FOUR FALLOW DOES BY THE AUTHOR.

cripple for the rest of his life, and he will never afterwards tackle another buck. Sometimes several bucks set on an old one and kill him outright.

One day I saw two big bucks out in the park, one lying down and the other standing beside him. As the one lying down seemed to be wounded, I took a rifle and went out to see what was the matter.

When I got near, the buck lying down got up and hobbled along a few steps with a fore-leg swinging loose, and then lay down again, the other buck keeping close to him.

I saw he had a broken shoulder, from fighting, so I shot him through the neck.

He staggered to his feet and then fell; as he got to his feet the other buck gave him a very vicious dig in the side, and even as he lay dying was very loth to leave his victim.

If I had not come on the scene, the conqueror would most likely have kept on prodding at the wounded buck till he died, following him round and hitting him whenever he got a chance.

On one occasion I saw a buck parry a blow very neatly. It was a hard winter and several bucks (they are less timid than the does) had come under the dining-room window, from which I was throwing them bread.

One buck while putting his head down to take a piece of bread was suddenly attacked by another, who struck at his side; the buck attacked had no time to swing round to avoid the blow, so he threw up his head, and thus covered his heart, at which the other buck was aiming, with the palmation of his horn of that side.

The brow-point of the attacking buck struck the palmation of the horn of the first buck. This was a very neat parry, worthy of a good fencer.

Fallow deer are very inquisitive, and anything likely to do them harm should be put out of their way; they are very apt, for instance, to get old sacking on their horns, when they become frightened, and may in consequence hurt themselves seriously. I have known, for example, a buck get a round towel (such as is hung on a roller) twisted round his horns, and then start galloping till he caught his hind-legs in the towel and had several dreadful falls; each time he fell he got up again, and started galloping, and then got entangled and fell once more. I thought he would have killed himself; but he carried the towel on his head for days, and was for some time very lame from his falls.

I have also known a buck entangle his horns in a child's swing, and then wind himself in the rope round the tree to which it was fixed; thereupon another buck, taking advantage of his not being able to defend himself, immediately stabbed him, and he was found dead, partly by strangling, and partly from the other buck's horns.

A curious incident of this nature happened in connection with a lace curtain which was hung out to dry. In the dusk of the evening a buck got the curtain on his horns, so that it hung like a bridal veil over his head. This frightened him, and he started galloping, while the rest of the herd galloped away from him in all directions. As he came down the park in the darkness, the white veil was alone visible, and looked like a ghost flitting about amongst the trees.

For the same reason barbed wire is very dangerous to leave about; and I have seen a buck who had rolled himself up in a loose end left lying on the ground torn to death.

It is best not to allow unsuitable bucks to live till they are two or three years old. The tendency is to let them grow for a few years so that their venison will be more valuable when they are shot, but since even a two-year-old, and much more a three-year-old, may chance to breed, it is best to shoot them as young as possible.

If it is possible to find the fawns when just born (in some parks the does produce their fawns in thick nettle-beds, or beds of bracken, when, if searched for, they can easily be found curled up), the bad-coloured young males can be caught and gelded.

Then of course they can be let run as "havers" till they grow big and fat; these making the best venison.

The proportion of fawns that die when gelded is very large unless the operation is performed by a skilful person, but as these bad-coloured males are best out of the way in any case, this is not of much importance.

Fallow deer are not of much use for hunting with hounds; they run pretty well, but cannot be used as "carted" deer, since they almost always die when caught; neither can they be roped and taken home, and hunted another day, as they seem to run themselves to death, injuring themselves so much that, if they do not die at once, they almost invariably do so next day.

In some works on natural history it is stated that the origin of the spots on the fallow deer is due to an axis cross, but this is surely untrue.

The spots are somewhat differently placed in the axis when compared with the spotted variety of the fallow deer; the same being the case with the side-stripe. Finally, I have not been able to cross deer of the round-horned group, to which the axis belongs, with palmate-horned deer.

I have noticed a curious similarity which may be evidence of relationship, between the Virginian white-tail deer and the fallow deer.

The points of the white-tail's horns project backwards instead of forwards, as in all other round-horned members of the deer family.

I was puzzling over why these were the only horns that have the points directed backwards, and looking at a stuffed head, when it suddenly struck me that they recalled fallow deer horns.

I made a sketch of the horns in profile, and then by filling in between the points (like filling in between the toes of a hen's foot to make the web of duck's foot), I obtained a presentable drawing of a fallow deer's horns.

In a similar way, starting with a roe-buck's horns it is possible to pass gradually to the sika and axis, and so on to the red deer type, and then from a many-pointed red deer head to the moose; while we may also pass from the moose back to the fallow deer, from the fallow deer to the white-tail, and from the white-tail, by putting the horn back-end forwards, to the sika, and so back to the roe.

It is, in fact, just like the three main colours of the spectrum, red, yellow, and blue, which can be arranged in a circle, the places where they overlap being respectively orange, green, and purple.

When shooting fallow deer for the market, better prices can be obtained if the deer are shot only in the head or upper part of the neck, as the venison is not spoilt, while the skin also sells better.

In the English market prices are very bad, as people do not seem to like venison; but in the Paris market fully ten shillings more can be got for every doe sent there during the winter months. The French dealers prefer a large consignment sent at a time,—forty or fifty,—whereas English dealers like only from four to six carcasses at a time, as the English market soon gets glutted.

I have not tried sending the carcasses of many sika deer to market, but they ought to sell better, as, although smaller, the venison is much better than that of fallow deer. In France they would most likely compete with chevreuil (roe-deer) venison, which is much liked on the Continent although despised in England and Scotland.

In order to shoot the deer in the head, it is necessary to have a very accurate rifle; it is brutal to shoot fallow deer with buck-shot as is done in some parks, when, of course, the venison and skin sell very badly as the body is shot all to pieces.

As there is danger in most parks of shooting passers-by, especially if there is a right-of-way through the park, care must be taken to use a rifle which only carries a short distance—a Lee-*Metford* or a *Mauser* would be very dangerous to use.

I use either an old .36-bore rook-rifle, such as are no longer made, but can be picked up second-hand—there is a difficulty, however, in getting ammunition for such a weapon—or a rifle I have had specially made to shoot the .45 revolver-ammunition with a *Webley* “man-stopping” bullet.

This rifle takes a very small charge, thirteen grains black powder or its equivalent of nitrate-powder, and carries only a very short distance: as the bullet has a hollow cup in front, it opens out

when it strikes, and makes a very deadly wound ; the cup prevents the missile glancing far if the deer is missed and the bullet strikes a tree or the ground.

Moreover, by opening out when a deer is struck, the bullet is not likely to go on and wound another animal.

As fallow deer generally stand huddled up together, a bullet which has too much penetration is very apt, after hitting one, to go through it and strike another, when the heads or necks are aimed at.

When trying to breed to a particular type, it is very annoying to hit by accident a deer one specially wants to keep.

The only objection to this .45 low-velocity rifle is that the elevation varies every few yards beyond thirty, owing to the bullet making such a big curve.

Misses therefore are frequent, but this is a small matter in comparison with the danger to passers-by when a higher velocity rifle is employed.

Although I have killed fallow deer, and even red deer, with a low-velocity .22-bore rifle, it is not to be recommended, as so many of the shots only wound the animal. To be fatal, the bullet must be put exactly in the right place ; and I think the .22-bore is more dangerous to passers-by, as the bullet travels much further than the .45 revolver-bullet.

One of these .45 revolver-bullets (a solid one, not a "man-stopper") was recently found in the park lying on the surface of the ground, showing the marks of the leads of the rifle, and a slight flattening on one side.

This bullet must have merely dropped at the end of its flight when I shot at and missed a fallow deer.

CHITAL OR AXIS DEER (*Cervus axis*)

I do not think many people have kept this deer in a park, at any rate in this country.

I procured them mainly to try to cross with the fallow deer, as I had read somewhere that this would make the fallow deer more spotted, in fact that it was the origin of the spotted race of fallow deer, and I was trying to get an exceptionally spotted herd of the latter.

I had only one old fallow doe which was spotted enough for my liking, and as the bucks (I mean fallow bucks) were all much less spotted, her fawns did not turn out in this respect the equal of their dam.

I therefore got three axis stags and one hind; the stags were unlucky from the beginning, as some men began chasing two of them as soon as they were turned out. (I wonder why it is impossible to let the general public walk in a park without getting trees broken, rubbish thrown about, one's deer chased and pelted, and squirrels killed with stones.)

In this instance both deer got tangled up in a wire fence round some laurels, and each broke a leg and had to be shot.

The other stag ran with the fallow deer for several years, and seemed as if he were fulfilling what he was imported for; but I never saw any fallow deer calves which looked the least like a cross with him.

The herd at the same time had a white buck amongst them that I had bought from a menagerie, and many of the fawns began to be very spotted, with a lighter coat and white legs; but although I tried to persuade myself this was the result of having the axis stag running with the fallow deer, I think they were really the white buck's progeny.

Unfortunately, I had not at the same time any sika deer in the park, or it would have been very interesting to see if the axis would cross with them. He seemed, by his make and shape, nearly allied to them, and his horns were almost like those of a sika stag.

Moreover, the red skin—not velvet—with which the horns of the axis are clothed when “in velvet,” is almost identical with that on the horns of the Manchurian sika, which the axis also matches in size.

This axis stag became very savage, attacking men and horses, so that finally I had to shoot him.

I shot him out of a trotting wagon, which he was coming forwards to attack, and even after being hit by a .36 rook-rifle, he had half a mind to charge.

The axis hind could not be kept in the park when young; she kept jumping the deer-fence, which is not high, as it is only intended for fallow deer, its lowest part being some four feet high on a bank, with a deep ditch on the take-off side (I mean inside the park).

This keeps in the fallow deer and sika, although of course the wapiti, etc., have a higher fence for their enclosures.

The axis hind finally got out into a wood, so I drew for her with my hounds, when she gave us three and a half hours'

run before being taken;—a good run across country, hardly once taking the road the whole time.

She jumped better than any red deer, and was finally taken, unhurt, in a pond, crying like a hare when caught.

This was after she had produced a calf, which was born in this small wood on Christmas Day, but was killed by a dog a few days afterwards.

When I got her back I kept her with the wapiti deer in their enclosure; and she got on very well with them, the big stag taking quite a fancy to her.

When the big stag was shot and a younger stag put in to take his place, the latter began to bully and finally to hurt the axis, so I was obliged to have her removed.

As she was now old, I let her run amongst the fallow and sika deer in the park; when she did not seem inclined to break bounds any more, having become very fat, as will be evident from the photograph.

She ran all this rutting-season with the sika in preference to the fallow deer, one sika stag having her in his harem of five or six hinds. She has since died of old age without calving.

DEER FENCES

THERE are various makes of iron deer fences now on the market, most of which are very suitable, but the prices are high. I have tried a wire fence in the form of a net, that is to say, one in which there are horizontal and vertical wires, the primers being fixed to wooden posts at intervals, although they may be fitted to iron ones if preferred. The wires are twisted round each other at the junctions so as not to slip.

This fence is very good for a deer-forest if the lower wires are placed close enough together to prevent deer getting through, but I have found that in small enclosures for wapiti and Altai deer the stags force the wires apart so that the hinds can get through, and there is also the danger of very big stags, in trying to get at each other, breaking through.

In consequence I have found it necessary to have additional steel wires run horizontally along this fence a foot apart in order to strengthen it, and have also had wire netting placed along the lower part to prevent the stags getting the wires apart. My largest wapiti stag would have been through the fence if he had not been stopped in time by these additions.

As stated above, this fence would, however, most likely be very good in a large forest, where the stags are not apt to really try to get through, but merely wander along the fence, and, if

it is too high to jump, and does not give way when leant against, they eventually give up trying to get through.

If the fence is in a deer-forest, about seven feet is high enough, but if in a paddock it is better with some two or three additional feet of wire, leaning inwards, on the top.

I have known a two-year-old wapiti stag jump a seven-foot fence repeatedly; and I have also seen a hunted red deer hind at the end of a long run climb an almost vertical bank, and then, without having any flat foothold at the top, jump a five-foot stone wall. This jump was quite impossible to the hounds.

A deep, wide ditch, especially if full of water, in places enables one to have a much lower fence, since, if a stag is out of his depth in water he cannot rise to a jump, even if the fence is very low; and if the water is wide enough, and he cannot get a good run downhill at it, he cannot get over much of a fence on the landing side. A deer is a better high-jumper than a wide-jumper from a standing take-off.

Except in countries where timber is cheap, wooden fences are very expensive to keep in repair; but, if properly made, they are really more deer-proof than a wire-strand fence, in which the deer—especially the hinds and calves—are apt to get between the wires. A wooden fence may, however, be destroyed by fire.

If it is desired that deer should enter an enclosure and not get out again, a drop-jump into the enclosure may be arranged at various points, where stags can be enticed in during the rutting-season by hinds having been previously driven in.

In a park where it is customary to catch deer at various times, enclosures with V-shaped leads to them may be constructed,

the sides of the "V's" being low at first and masked by trees, and gradually getting higher as they approach the entrance of the enclosure.

A door which can be closed or dropped down from above by means of cords, or otherwise, from a distance or from a hut, enables the entrance to be shut when the deer are inside.

By feeding in this enclosure deer may be got into the habit of entering it, when they can be caught as required.

A smaller enclosure alongside also divided into pens with high, unjumpable sides, much facilitates the separation of individual deer for the purpose of marking, gelding, etc.

There should be bolt-holes or other places behind which the men can slip if cornered by a stag, as this business of separating deer is very dangerous.

"Spile fences," i.e. fences made of pointed stakes stuck in the ground and bound together with wire, are very dangerous for deer, as indeed are any fences with spikes at the top, or with vertical projections of any kind at the summit, as deer are apt to get a fetlock caught on the points when trying to jump them and thus break their legs.

Any fence to confine deer should have a smooth top, so that if a stag does jump it, he cannot get hung up on it or stake himself.

PRESERVATION OF HORNS

UNLESS a stag has a very good head, it is preferable to keep merely the top of the skull and horns ("le massacre" as the French call it) than to have the whole head mounted.

If the head is mounted it should only be done by one of the very best taxidermists, as otherwise it not only looks very ugly, but will soon decay and get moth in it, when it will shed the hair over everything. A head constantly dusted over with insect-killing powder is not a pleasant or wholesome object in a room, especially a living-room. Stuffed heads should be attended to each spring, and oftener if necessary.

Unless, therefore, a head is a very exceptional one and mounted by a first-class taxidermist (a sculptor, in fact, as are all the best stuffers, first models the head in clay, and then in plaster or papier-mâché, finally working the skin over the "manikin" so as to show all the modelling), it is much better, as already mentioned, merely to mount the forehead, with the horns attached to it, on a shield. In every case particulars relating to the trophy should either be painted on the shield itself, or else on a tablet attached to the shield; labels, unless very well fixed, are, however, apt to get detached, as, for instance, by the housemaid jerking them off when dusting, and then throwing them away and not saying anything about it for fear of getting scolded.

When the loss is finally discovered, perhaps after months or more, it is difficult to identify the head.

In the case of shed horns, it is a very good plan to mount those cast by each stag one below the other on one shield, putting the year under each pair, as in this way it is possible to study the growth of each year, and to decide if the stag is worth keeping, and when he is at his best, if he is to be shot. If the stag is finally shot, the entire set can be mounted beside, or around, his stuffed head.

It is advisable, in all cases where the age of the stag is known, to mention this on the label, as well as his weight, the date when killed, and if a wild or a park deer, etc. Moreover, when a suite of horns cast in different years are mounted together, an abnormally wet, cold, or dry season should be mentioned, or anything else which may account for certain pairs differing in size, weight, or shape from what should be the normal for their particular ages.

As a rule, after the fifth year, a stag's horns do not grow much in length from year to year; in fact when the animals are very old the horns become shorter, although the thickness and the number of points will continue to increase till the stags begin to get feeble, either from illness or old age.

After stags get well on in years the weight of their horns does not increase, and therefore in order to make the increase in the number of points, bony substance is used which would otherwise go into the beam; consequently the beam gets thinner as the number of points increases, while it also becomes shorter during the last few years of life.

I have found, especially among fallow deer, that if a buck who

has good horns one year goes back the next very much in his head, he is almost sure to be seriously ill, and will very often be found lying dead before the year is out.

Strong horn-growth is a very sure sign of good health in a stag, just as a firm crest is in a horse.

When the number of sets of horns begins to get large there is often difficulty in knowing what to do with them.

In a riding-school or a long hall the horns may, however, be arranged close together over the walls; in a riding-school care being taken that they are not put down too low, so as to be dangerous to horses or their riders. Average ordinary-sized horns which are not required to show yearly increase of growth in any set belonging to a particular stag, may be utilized for making furniture, etc.

In Vienna and Hamburg there are many manufacturers of such things, to whom the horns may be sent, when they will be made up into furniture, with the seats covered either with leather, cloth, or deer-skin (I do not like the latter, as the hair soon gets rubbed bald in places and comes off on clothes).

It is not advisable to get an upholsterer unaccustomed to this kind of work to undertake the job, as it takes a lot of contriving to so fit the horns together that their points shall not catch in everything—or on everybody who passes.

Hat-racks, umbrella-stands (often made of a group of fallow-deer horns mounted vertically in a circle so that the palmation forms a sort of basket), picture-frames of all sizes, and especially chandeliers, candelabra, and electric-light holders, ink-stands, etc., may be thus manufactured.

Articles of this nature in a room with horn-furniture and a few good stuffed heads on the walls, and pictures of deer in frames made of stags' horns, combine to form a very striking gentleman's study. It is, however, necessary to resort to Vienna to get the work done in proper Continental style, as there is little demand for such work in London.

The tushes of stags are mounted in many ways—as scarf-pins, or scarf safety-pins, groups for ladies' ornaments, etc.; hinds' tushes are used as buttons.

The long hair growing round the necks of stags in winter, and called the beard, will make up into aigrettes to wear at the back of the hat for sportsmen on the Continent, or into ladies' hat-ornaments; and I have lately seen quite pretty objects for ladies' hats made of stags' "beards" in Paris, looking almost like birds' plumes.

ON COLLECTING HEADS

SOME collectors buy any exceptionally good heads of various species of deer and try to make a collection of record heads.

In this, as in all collecting, great care must be taken to avoid faked heads being palmed off on one.

Personally, I do not care to collect any heads except such as I have myself shot or bred; but in buying heads the following points, amongst numerous others, should be specially noticed:—

Heads are “improved” by adding points; when neatly done this is difficult to detect by a casual glance, especially if the head is hung rather high.

The added points are cut from other horns and neatly jointed on, an eleven-pointer being made into a royal by adding a point either to the beam or by making up a cup, according to circumstances, and a stag with many points may by such means have several added without rousing suspicion, unless this form of fraud is anticipated.

As the joints are hidden by modelling and then colouring a rough surface over this part of the horn, it is dangerous to pick with a knife at the origin of a suspicious point in order to ascertain if it has been added and the junction puttied over, as one may injure a genuine horn. A magnifying-glass will, however, generally detect the false joint.

Bad-coloured horns are often coloured up, and the points sand-

papered so as to make them white, but this is scarcely a "fake," if natural peat be used as the colouring matter, since it is really only smartening up and cleaning the horns.

Sometimes shed horns are fitted to the head of an inferior stag which has been stuffed; this can be detected by turning down the hair at the root of the horn, and seeing if there is a join where the latter has been screwed on to the skull.

As shed horns, if they have lain for any time, are generally bleached, such a head has almost always to be coloured, as otherwise the faded look of the horns would betray them.

Broken horns are patched, and a broken point has a new tip put to it; but this is perhaps legitimate, especially if it is the first head shot by a sportsman, who wants to hang it on his wall, and it has got the point broken by a fall or damaged by a bullet.

A narrow "head" is widened by the skull being split and a wedge driven in before it is stuffed; but such false spread is easily detected by experts, the angle of the burrs looking unnatural to anyone accustomed to the horns of that particular species of deer.

As deer often have more points on one horn than the other, or an altogether better horn on one side than the other, the best horn of each of two different stags (if a right and a left one respectively) are sometimes made up on one head, so as to display a lot more points than either stag originally possessed.

In such case only one horn need be artificially fixed on, the other being stuffed with the head; or, amongst a lot of shed horns, two may be found which make up a very good head, though they did not originally belong to the same stag.

This fraud is easily detected, as a rule, since no two stags have exactly the same character of head; just as you could not make up a face by cutting photographs longitudinally through the nose, and then trying to fit the half-faces of two different people together.

Anyone not used to deer might, however, be easily taken in by this kind of faking.

For many years I had noticed above a pastry-cook's shop in London a wooden stag's head with real horns; this got very shabby, and one day when passing I saw the head had been repainted, but the "artist" had taken off the horns so as not to be in his way when painting the head a nice uniform brown, and had then screwed them on again on the wrong sides, so that instead of forming a "U" they made an "X"!

Stretching the skin of the head and thus making a stag look as though he had been much larger is often done; and in the case of wild boars the tusks are often pulled out of the jaw and fitted on a stalk, so as to make them look longer than natural.

A chamois-head may also be lengthened, as well as heads of some antelopes, by cutting through the middle of the straight portion of the horn, where it is crinkly, and adding an inch or two of another suitable horn, working over the lines with a tool so as to make them join well, and then puttying the joints.

This fraud may be suspected and detected by the disproportion of length and thickness of the horns. Artificial chamois-horns are often palmed off on the inexperienced, and are sometimes very difficult to detect; and I have also seen stags' horns made artificially which could not be at once distinguished from the real article.

I have seen shed stag's horns mounted on a hind's head! It is interesting when comparing cast horns shed by the same stag from year to year to notice how they resemble each other in their curves; it is the original horn built on to each year. The shape may sometimes be modified by an injury during growth in a certain year, but if there has not been an injury to the coronet, the next year the horn goes back to its original type.

Although the horns drop each year, they always look just as if they were planned permanently, but had each year received additions or modifications; stags' horns always keep up a resemblance from year to year to their original type, just as a tree does.

In looking over a heap of shed horns, one can generally say of a particular specimen, "This must be stag so-and-so," simply by the general look of it; and one can also detect its fellow-horn, even if it has more or less points than the one in hand, by its general characteristics, and often by its colour.

It is a mistake for a taxidermist to colour a stag's horns with peat, when mounting it, if that stag came from a place where there are no peat-bogs.

A series of casts of fine heads can be bought of Hodeck Brüder, Vienna.

PRECAUTIONS TO BE TAKEN TO AVOID INJURY BY DEER

It is always most dangerous to make a pet of a deer, even of a hind or a roe-buck, since as soon as they lose their natural fear of people they are apt to suddenly strike out at them ; the females rising on their hind-legs, and hitting very dangerous blows with their fore-feet, while a roe-buck will knock a man down, and has been known after doing so to keep on driving in his horns till he had killed his victim.

Any park which has a right-of-way through it is not a safe place in which to keep the larger sorts of deer, as the owner will be liable for damage done to users of the path by the deer ; and people are so stupid that they will walk right into a herd, instead of going round, even when they see a stag running round his hinds during the rutting-season.

In such cases they are almost sure to get hurt. On a certain occasion during the rutting-season, one of my men stupidly rode a polo pony between some sika hinds and a Manchurian sika to whom the hinds belonged, and who had left them to lie down and have a rest under a tree. The stag went at the pony and cut a long gash in his flank before the man could get clear.

Of course this was entirely the man's own fault, but I had to shoot the stag all the same, as he got into the habit of going after horses, and killing sheep.

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It is also very dangerous to feed deer out of the hand, as they may at any time suddenly make an attack, especially in the case of a lady accompanied by a dog, or carrying one under her arm.

When hinds have calves hidden in bracken or nettles, it is not safe to go near with a dog, as the hind will jump on the dog, and if it is a small one break its back. A hind feeding near bracken or nettles in June or July should always be avoided, as most likely she has a calf hidden near by.

During the calving-season notices should be put up requesting people not to bring dogs through the park, as they not only disturb the hinds, but often kill the calves. At such times I generally have men patrolling my park.

If a stag is getting too bold and follows people about, it is as well to occasionally fire at him with dust-shot out of a "collector's" gun, when he is far enough away not to be damaged by the shot, but care must be taken not to hit his eyes or legs.

When a stag, especially a large one, has once got into the habit of attacking people he can never be cured of it; and it is therefore best to make him afraid of people from the beginning, whilst he is still a calf.

TIMES OF BREEDING

My chief deer-tender has kept a very careful record of the dates at which the various species begin roaring, produce their calves, etc. etc., and the following particulars are taken from his notes.

WAPITI. In 1908 first calf born May 10th, next May 13th, May 17th, May 28th, June 2nd, and June 12th.

Big stag dropped horns last week in February; began roaring middle of August.

In 1909 first calf born May 5th, two born May 18th, one May 24th, one May 29th, one June 2nd. Young wapiti dropped horns March 15th, 1910.

In 1908 the Altai stag began roaring in the middle of August (he was within sight of the big wapiti in an adjoining paddock who began roaring at that date, and the Altai may on this account have commenced roaring at the same time).

The red deer hinds bred to the Altai stag dropped their calves in 1908 on May 25th, and two on May 27th. In 1909 they had their calves later, the first being on June 6th, the next June 7th, June 9th, June 10th, June 18th, and so on till June 25th.

In 1910 the Altai stag cast his horns on March 10th.

The red-deer-wapiti cross-bred hind had a calf to the Altai stag in 1908 on May 24th, to the same Altai stag in 1909 on May 23rd.

The Altai stag dropped his horns the middle of March.

In 1909 the hind, a cross between an Altai stag and a red deer, had a calf to an Altai stag (not the same stag as her sire), on June 11th.

Some red deer hinds of the Warnham herd, crossed with a red-deer-wapiti hybrid stag, threw their calves on July 18th and 21st respectively.

The sika deer shed their horns in the middle of April, produce their calves about the middle of May, and start roaring at the middle of October.

Fallow deer shed their horns in the middle of April, have their fawns about the middle of May, and start roaring in the middle of October.

My park, in which these notes were made, is in Kent, about twenty miles due north of Dover. The dates of roaring, etc., of the various kinds of deer may, of course, differ in their native countries. The times of calving of the different cross-bred deer are interesting to note, as showing in what way deer which normally calve at certain seasons have these affected when the various species are cross-bred.

BUYING AND EXCHANGING DEER

THERE is always great difficulty in exchanging deer, as there is so much risk in trying to catch the particular deer with which one wants to part. The deer get so frightened that many injure themselves while the one wanted is being driven about; and it generally ends not only in the desired deer remaining free, but in several other deer, often the best in the herd, being injured or even killed.

Personally I never allow my deer to be caught for exchange; any deer I want to get rid of I shoot, as this is much safer for the other members of the herd.

All deer, whether received in exchange or bought, should at first be kept apart from the others as long as possible, so as to be certain that they have no infectious disease. If they come in crates, a veterinary surgeon can examine them before they are turned out, but even if he passes them as sound, it is safer to keep them in an isolated place for some little time.

As regards wild boar, I once heard of some live ones for sale very cheap, and bought several, only to find that they had the mange; luckily my man detected this before they were turned out into the wild boar shoot, or they would have done great damage by infecting the others.

Whenever deer are offered for sale it is best to see them. If they are in a park, look at the whole herd, and find out if there

has been illness amongst them, as fallow deer are apt to get epidemics which are very fatal.

If good-looking deer are offered cheap it is very suspicious, and they should be very thoroughly examined and all details of their history examined before purchase. This applies especially to wapiti, which, in England, are very apt, as already mentioned, to be consumptive, and also to sika, which are subject to rickets and crooked legs.

FEEDING

MOST of the deer tribe are fond of eating leaves, and if a branch falls or is blown down all the deer in the park seem to know of it at once, and come galloping up from all directions to feed on the leaves. Certain trees are, however, poisonous for deer to eat.

Yew trees, for example, are highly poisonous, and if there are any of these in a park they ought to be fenced round so that the deer cannot get at them, and if a branch falls anywhere within their reach it should be removed at once.

Stags and bucks will stand up on their hind-legs under a low branch which is too high for them to get at with their mouths, when they strike at the bush with their horns, and sometimes twist the latter among the twigs and then pull, so as to break off a branch.

Certain instances where deer have caught their horns in the clefts of trees, and died by being unable to get them free, were most likely due to this habit.

When trees are being trimmed it is a good plan to throw the branches to the deer, which will feed eagerly on the leaves. As deer in paddocks cannot get many such branches, I always have some thrown to them when trees are being trimmed.

Short grass, cut by a lawn-mower, is not so good, and deer do not care much for it, as it turns sour very soon on account of being cut so short.

In winter I have mangolds thrown out of a cart while it is being driven along, so that the deer get them evenly distributed amongst them. If the mangolds are put too much in heaps the big stags take them all, and are liable to hurt any other deer trying to feed from the same heap.

Acorns are very liable to kill deer, if they eat too many freshly fallen ones. Sika deer, which like to search for acorns, are especially liable to get too many and poison themselves. I generally pay children to collect acorns in the park, and then keep them till they are dry, when the deer are fed with them in moderation.

THE ACTION OF DEER

ONE can tell the various kinds of deer by their action; a red deer, for instance, galloping quite differently from a fallow deer. The latter and the sika deer have a trick of jumping with all four feet together for some distance; the fallow deer having their tails curled over their backs. This is not generally from fright, but in play. A fallow deer about to lie down always wags its tail as it goes on its knees preparatory to assuming the recumbent posture.

When a sika is frightened, he makes all the white hair on his rump stand up, so that it looks like a big dandelion in seed, or a pod of cotton when ripe.

Sikas have a lumbering exaggerated copy of the gallop of red deer. Wapiti gallop almost as awkwardly as a camel, and their trot also looks very camel-like, the nose being carried high, although they do really trot, and not pace in camel-fashion. A frightened elk (moose) gallops, although Natural History books state that it trots.

I have seen a red deer hind when hunted by hounds go at a hard trot, keeping just clear of the leading hounds, which were galloping their hardest; she must have been trotting at a 2.20 gait, or even faster, and she went up to her fences and took them from the trot.

I have only seen one horse who could take a big fence from a

trot, and he used always from preference to go up to stiff timber at a trot, but it was only a jog-trot, and not a fast one like that of the hind in question.

Indian blackbuck have a stilty slow pace which corresponds to walking in other animals, and they follow in single file this stiff walk like a lot of camels. When I first saw this drawn in Egyptian hieroglyphics, I thought it was a mistake on the part of the artist, who, however, was quite right, as were all the ancient artists, including the cave-dwellers, when they drew animals. They seemed to understand the nature and habits of animals much more than present-day animal painters, who attribute to them human ideas and actions, and only draw—when not from their own imagination—from animals cooped up in cages. I believe the cave-dwellers drew from memory, not from a model; drawing from a stationary model or dead animal leads to false movement, and this is the reason Landseer's animals never show real action, whereas Rosa Bonheur's and Meissonier's do.

Modern artists, for instance, paint a bear walking along like a dog, instead of slouching along with the rolling swing it has when at home; and none of them ever drew a shot bird "well centred" except Stuart Wortley. On the other hand, an old Syrian wall-sculpture of a wounded lioness shows exactly where she is hit (i.e. a broken back) by the manner in which she is dragging her hind-quarters.

It is curious how unobservant animal painters have become since those early times; their representation of the trot and gallop was always wrong, and the only reason it is now generally more accurately drawn is because they have instantaneous photography

from which to draw ; it is not observation, but merely copying photography.

There is as much difference between the gallop of two kinds of deer as there is between that of a rabbit and a hare, or between the flight of a grouse and that of a snipe.

In the cross-breeds it is interesting to notice how the action of the cross approaches to both the parent stocks, just as in a hackney-American-trotter cross the action is a compromise between those of the two parents.

In the horse this action can be modified, so as to approach that of either parent, by the way in which the animal is driven. I suppose in the same way the cross-bred deer, if it were transplanted to the home of either parent, would modify its action towards that of this particular parent.

I think that the action, besides being partly the effect of shape and comparative weight, is due to the sort of country in which the animal lives. A deer which has to move about in a wood full of fallen branches and logs has, for example, to go at a high all-round trot, just as a horse can be taught to step high in a trot by being forced round over low bars placed at the proper distance apart.

If a deer lives on a plain full of ravines, he takes to galloping with big jumps, and so on.

The weight of a deer's horns also influences the way he carries himself. A stag with light horns can, for instance, swing his head in galloping, whereas one with heavy, wide-spreading horns has to balance his head, like a person walking with a load on the head. He also gets in the habit of poking his nose out in front when

going through a wood, so as to prevent his horns catching ; having so put his nose up and thrown his horns on each side of his shoulders, just in the reverse way to that in which a man lifts up his legs when passing through a narrow gate when riding.

When a stag is standing listening in a wood, he holds his head high with his ears pricked ; the moment he decides to rush forward, he lowers his head but raises his nose high, so that his horns are lowered on each side of his withers and no point projects above his back.

TRANSPORTING DEER

WHEN deer have to be sent by rail or van, crates just big enough to hold them should be made, with wide slats with open spaces on the top and upper part of their sides, the front and back being best boarded over, so as to keep the deer warm and prevent their being frightened by seeing too much in front.

The front and back should be made to slide up, and, when the deer is in, nailed firm. This enables the deer to be driven in at one end, while, when it has to be let out, the other end can be lifted.

If only one end lifts, the deer has to back out, and may get hurt.

Stags should have their horns sawn off before crating—of course above the burr, or injury may result to future growth of horn.

The object of having the crate only just wide enough and high enough is to prevent the deer being able to struggle and knock itself about, or, when a ship rolls, from falling down. The bars next the sides of the deer may be padded. The object of having the open slats is to admit plenty of air, but, of course, a tarpaulin should be put over the top if it rains or is very windy, taking care to leave plenty of air space.

A tray should be made to fit on in front outside, with a hole through which the deer can get its nose, so that it may have water and food. The watering is especially necessary. I once assisted in my shoot in Germany at the turning-out of some wild boar which had come all the way from Russia. The man in charge must

have neglected to water them, since, as soon as they were turned out, although they all ran off in a great fright, each suddenly pulled up and went up to its middle in a pool of water, where it drank for a long time.

One of the causes of the mortality amongst deer sent by rail in crates is that the animals get very heated while being caught and put in the boxes, and then stand about in cold draughty places in the crates, and so get chilled. A deer ought to be thoroughly cooled off before being crated, and if it can possibly be avoided, should not be sent in cold, windy weather.

It is also very bad to let them stand in their crates without shelter in the sun.

Each deer should be crated separately, as otherwise they trample on and hurt each other; and if a man does not travel with them, some arrangement should be made with the railway authorities to feed and water them on the journey, and to let the consignee know at once when they arrive, instead of letting them stand about in draughts or cold, as is too frequently the practice. It is also important that "Live animal" should be painted in the language of the country to which they are going, in big letters on every side of the crate, as, unless this is done, other objects may be packed on top and smother the deer.

When deer arrive at your park, do not turn them out at dusk in a place where there is a wire fence, as they may make a rush into it without seeing it, and thus injure themselves. I try if possible to turn them out near a small group of their own species, so that they may join them. This keeps them from rushing about, and thus prevents one great danger, as if they take to tearing off

when they do not know the park, they may seriously hurt themselves.

As already stated, deer should never be turned out during the rutting-season, as the other stags will surely kill any new-comer.

Moreover, take care not to turn them out near any gate leading out of the park—they remember where they were turned out, and will return there, and if the spot is near a gate, they will try to get out of, or over that gate, and make a bolt for it as soon as it is opened.

Deer will work all round the park during the first few days trying where there is an opening through which they can get out, so all such places must be carefully seen to before the animals are let loose. Places quite safe against the deer which are already in the park, the new-comers, if there is the least weakness, will be sure to find out, when they may not only get out themselves, but lead others to follow.

I once had a fallow buck who was so clever at finding weak spots in the fence through which to get out, that I had to shoot him, as he was teaching the others to follow his malpractice.

All gates in a park, where there is a right-of-way, should be made to swing and fasten of themselves by one of the various forms of gravity hinges; i.e. those in which the weight of the gate is lifted in opening, while in settling down again to its lowest level it automatically shuts.

In the case of small wickets, the gate may shut by a spring, and should open in a semicircular paling, so that no deer can squeeze its body in and thus get through.

I do not much care for ladders leading over the fence, as I

imagine a deer can learn to climb and partly jump them. I knew a wild boar that could get over such a fence.

If there is a way leading from the house into the park, as, for instance, an arch through which to drive from the stables, although there is not much chance of deer getting out that way in the day-time when people are about, or at night when the lights are lit, yet it ought to be furnished with a gate as high as the rest of the park-paling, as otherwise deer will get out when all is quiet at night.

I find if deer do get out, they can often be driven in again with the aid of a few slow old foxhounds, especially if they have gone out down an avenue or any place which will serve as a funnel along which to drive them back.

I have known fallow deer which never jumped the fence out of the park, yet when they happened to get out of the park by a gate left open, were easily driven back into the park over the fence by a few foxhounds; the jump in that case was, however, with the ditch on the landing side, instead of on the take-off side, as it would be from the park.

When a deer is wounded, it moves along the fence trying every crevice to get out, and I have known a pair of wounded fallow does hide inside a faggot-stack.

Of course, in deer-paddocks all gates should be kept locked, and the keys in charge of the keeper.

DEER FOR HUNTING

THERE are only two species of deer which, as a rule, are hunted on the Continent, namely, the red deer and the roe-deer; the fallow deer is, indeed, occasionally hunted in England, although I do not know any Continental packs which hunt these deer.

In Ceylon and a few other places the axis deer is hunted with hounds, but followed on foot, not on horseback.

Roe-hunting is not practised in England, but in France there are many packs kept for this purpose. A roe gives a glorified hare's run, but only wild roe can be hunted, as a carted roe would be sure to be killed, even if it did not kill itself while being taken to the meet.

Fallow deer are unsuitable for use as carted deer, as they do not go into a pond or building when done up, but run on till they are pulled down, and die of exhaustion if they can be saved from the hounds.

I have hunted fallow deer which have escaped from my park and taken to the woods in the neighbourhood.

As stated elsewhere in this book, these deer generally, after ringing round for a short time, make straight for the park when they find they are being hunted in earnest, and jump the wall; when the hounds are, of course, stopped, and the deer do not die.

A few bucks have given good runs away from the park, but in those cases it was impossible to save them, as they continued running till pulled down by the hounds.

As I have mentioned before, I once hunted an axis hind, which gave a very good run; but it was a fortunate occurrence that she got into a pond and was thus saved. I do not think axis deer would do for carted hunting, as, from being so small and delicate, they would be almost sure to get killed.

The larger deer, like the wapiti, are too clumsy, and would most likely take to road-running.

Wapiti would likewise be dangerous to people they came across while being hunted.

The red deer is the most suitable deer for carted hunting.

As regards wild red deer hunting, what is wanted is not at all the type of deer that is best for shooting.

In shooting, the stag with the best head and the heaviest body is what is wanted; for hunting a heavy head is a hindrance to the stag, and a heavy body even more so, so that what is wanted is a greyhound type of stag, with a small, light head.

I suppose this type is produced by the survival of the fittest in countries regularly hunted over, since, like foxes and hares in a hunting or coursing country, the stags and hinds which can gallop best and stay longest are those which survive to perpetuate the race.

In hunting in France a "dagget," i.e. a two-year-old stag, gives a much better run than an old twelve-pointer, the old stag just ringing about trying to get other stags to take his place by putting them up. French hounds are, however, hard to baffle, and stick to their hunted stag with very little help from the huntsman.

It was rather amusing to see an illustration in an English paper lately, with the words under the picture, "Hunting in France à l'Anglaise," since hunting in England was taken from the old

French, as the English hunting cries suffice to show; "Eleu," for instance, being the "Au Loup" of the French wolf-hunter.

For carted deer, hinds are usually selected, although occasionally a gelded stag, or "havier," is employed; but he is apt to turn sulky and refuse to run, although if he *does* get going he gives a better run than a hind.

I believe that one well-known pack hunts only "havers." My experience of them is that, whilst a really good havier is the best animal to hunt, as he runs straight and keeps going, the generality of havers sulk or run cunning, it may be from imperfect gelding, just as a horse under similar circumstances is untrustworthy.

Hinds, as a rule, give the best runs. Being more timid, they are more likely to go straight away, and are then less apt to run amongst the horses, or to go into a shed as soon as they are turned out. A sulky havier will get amongst the horses and carriages, or even rush under a horse, with the hounds after him, to the great discomfort of the driver or rider, and then, if the hounds are not keen to seize him, just loiters about, striking at the hounds occasionally with his fore-feet.

In the case of wild deer, "yeld" or barren hinds give the best runs of all, but next is a "dagget" (so called, I think, from the French for a dagger, the short straight horns without points of such a deer being likened to that weapon).

A good deer which, scent being strong, is certain to give a good run (and not take to the roads) is worth a lot to the hunt, and is generally taken out as second deer in the cart, an untried deer being the first. If the latter does not run, the tried deer is turned out.

Some deer are improved by being left out instead of being taken, although it is, of course, necessary to know that the owner of the land where the deer is left out will look after it, and see that it is not shot.

A deer left out in this way, when freshly found a few weeks later, sometimes goes away straight and gives a good run. Most likely the deer learns the country when out in this way, and thus gets to have reliance on itself and knows where to go, whereas a deer turned out in a country it does not know is sometimes like a bagged rabbit turned out in a field, which merely squats and lets itself be killed, whereas if it were bolted from its own burrow it would run off without hesitation.

As deer which run well and can be depended on are so valuable, it is curious that so many stag-hunts rely on getting deer bought from anywhere. Such deer are seldom any good; those imported from Scotch deer-forests, from never having any jumping to do at their home, being generally confirmed road-runners.

Deer are sometimes trained over fences in large paddocks by being driven by cracking whips or hunted by muzzled hounds.

It ought to pay for someone to start a deer breeding and training establishment to supply stag-hunts with good animals; each deer being sold on approval, and if unsatisfactory and returned uninjured, another given in its place.

This depends, however, of course, on whether carted deer hunting is allowed to continue.

It is curious how illogical the opponents of carted deer hunting are; nobody hates cruelty to animals more than myself, but this is the very reason why I *like* "tame" stag hunting.

I hate to see a hunted hare, tired out, and just hopping along in front of the hounds, screaming as it hears them coming closer, knowing that it is unable to escape.

I have actually seen a hunted hare stop and face the hounds and wait to be killed, screaming all the time, as it was too stiff to go a step further.

A fox gives a good run, and just manages to get to ground dead-beat, and is dug out and thrown to the hounds.

Now some of the humanitarians see no harm in killing the hare as described above, or in digging out the beaten fox and throwing him into the middle of the pack alive, or chivying an otter up and down a pool with a lot of people preventing him getting up or down; no, they call *that* "sport"!

But if a stag-hunter, who tries his best to save his deer, which is only a little less precious to him than his horse, or his hounds, is so unfortunate as to get it killed (an event he deprecates more even than the humanitarian, as he knows how difficult it is to replace), there is a howl of indignation!

These busybodies are so illogical;—if the sportsman kills the deer, he is wrong, while if he saves it "it is not sport," and he ought to be ashamed of himself hunting the poor thing merely to save it.

I heard an old lady say, as she saw a hind being led into a shed to be shut up, fed, and made comfortable with plenty of clean straw, after she had been taken, "Why don't you shoot the poor thing?"

The chief danger to a hunted deer, leaving out the chance of getting cut by wire, staking itself, or going down a chalk-pit or

cliff (all of which accidents are more or less unavoidable), is the liability of being hurt the first time it is hunted, when it gets bewildered.

After the first time or two the deer learns how to take good care of itself, so it begins to look out a line to follow, and when tired promptly goes into a pond or barn.

It seems to me that an establishment for training deer should have the big park, (where those for sale are kept,) divided up by hurdles and fences of different sorts, and the deer called up by whistle to be fed.

Then they would come racing across country to be fed, especially if only a little food were given, so that the first-comers got all that was available.

The boundary fence must, of course, be unjumpable.

The deer would thus soon get into the way of going straight to their points, and I rather think it would be as well to get them used to hounds (perhaps small beagles well under control), which should be made to hunt them occasionally for a short time about the grounds.

It would not be necessary to single out individual deer, for if a bunch of deer were driven about a little, it would not only give them exercise, but enable them to acquire confidence of being able to outrun a hound, and also to be but little afraid of him.

But this is not all, for if these beagles were stopped by men on horseback (dressed in scarlet, as animals get to connect colours with objects), the deer would soon know that the men out hunting were THEIR FRIENDS and not their enemies, and it would thus be easier to help them at the end of a real run.

The stags, and the hinds with calves, would, of course, have to be kept in separate paddocks well away from any chance of being disturbed by these huntings.

In Spain the young bulls, when they are two years old, are tried with a lance by men on horseback, and if they do not show courage, they are fattened for the butcher; only the fiercer bulls being kept for future trials, till at last the picked bull can be sold with confidence for a bull-fight. In the same way young deer might be tried as two-year-olds to see if they would run straight and not turn into road-runners; those which proved unsuitable being sold for venison.

Old hinds, when getting past hunting, could also be returned to the establishment for breeding purposes.

The present haphazard way of getting deer for hunting is very unsatisfactory, as so large a percentage is useless, while even the good ones do not become fit till they have been hunted several times, and may easily get killed in the process. It is just like trying to hunt on a green horse instead of a made hunter.

If those opposed to "*tame*" stag hunting (they emphasize tame as if it were kinder to hunt a wild frightened thing and kill it than one that gets to know it will not be hurt) would only come out a few times and see how well the deer are treated, it would be better than writing about matters of which they know nothing.

The hounds like the gallop, the horses thoroughly enjoy it—often too much for the comfort of their riders—and, I think, the deer, if asked, would rather have a scamper through the fields occasionally than spend all his life shut up in a small pen in a menagerie.

People who do not take exercise think it a shame to make an animal gallop till it is tired, not understanding the pleasure inherent in becoming healthily tired out and hungry.

When a healthy man has been shut up in a room for some days, it is the greatest pleasure possible to have a hard walk or gallop and come home all of a glow, and if there is likewise some risk, as in big-game shooting or hunting, the pleasure will have been so much the greater.

CROSS-BRED DEER

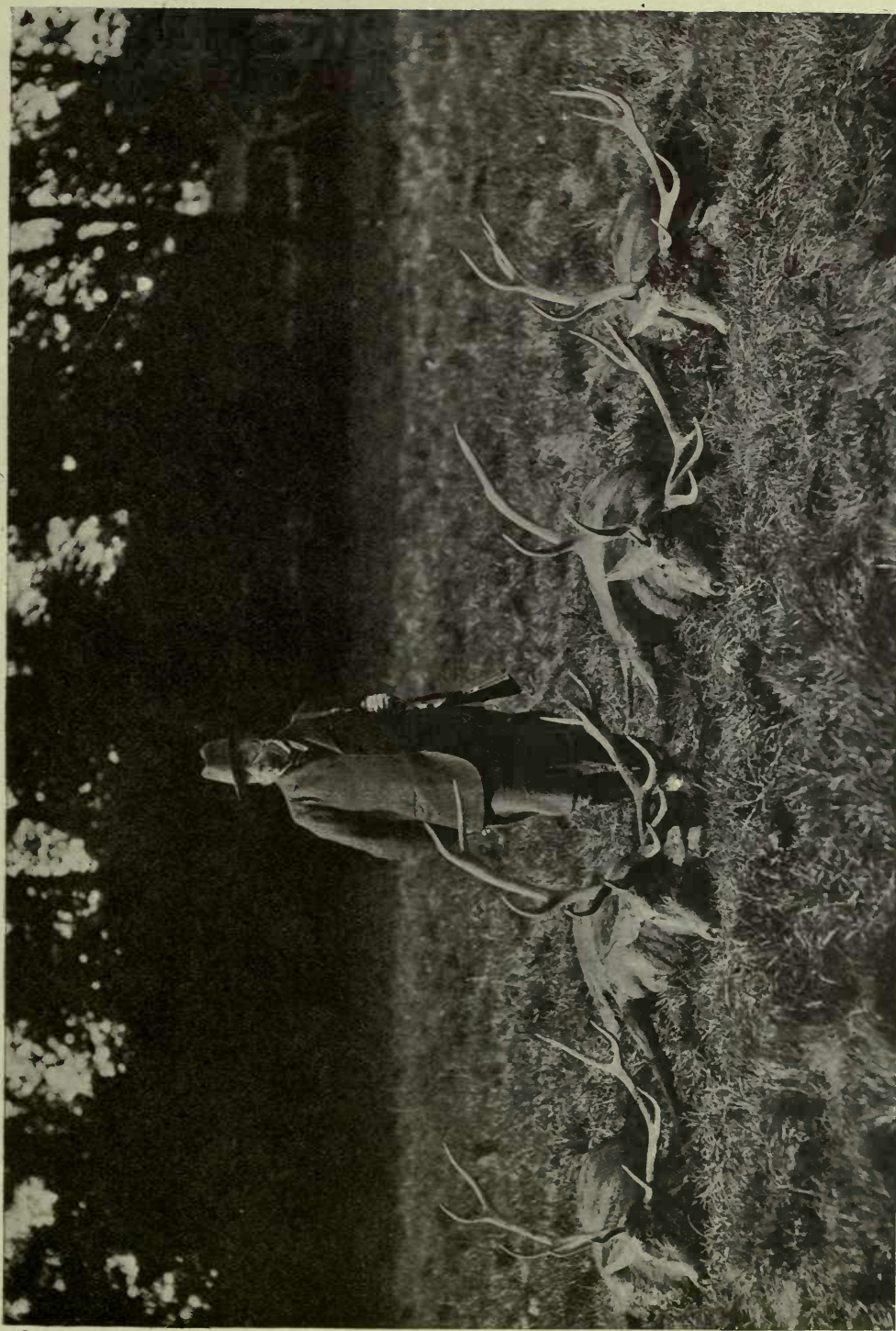
IN order to try to evolve a deer with better horns than any pure-bred red deer, whilst keeping the red deer type, I have, for the last fourteen years, been making crosses between wapiti (*C. canadensis*), Altai (*C. c. asiaticus*), red deer (*C. elaphus*), and hangul (*C. cashmirianus*).

The result, so far as I have gone, is given below, with photographs of each cross—male, female, and young. What I have proved for the first time is that all these species of deer freely cross, and that the progeny is fertile, even in triple and quadruple crosses.

I find the Altai, whilst improving the bodily form, does not improve the horns, since—although it may be that my stags were exceptions—the Altai has too narrow a “head,” the horns, after spreading slightly, growing straight up, and not having many points; while, worst of all, they have the tendency shown by some wapiti to have all the points in a fore-and-aft direction, so that they do not branch out sideways, as a good “head” should.

The result, therefore, of the Altai-red-deer cross (the Altai being the male parent) is that the hybrid hinds are very good, being big, strong, and of a greyer colour than pure red deer—almost Altai colour—and that they cross freely with wapiti or hangul, while their male progeny do not have narrow “heads” when thus crossed.

On the other hand, the stags of the Altai-red-deer cross have



No. 1.

$\frac{1}{2}$ wapiti, $\frac{3}{4}$ red deer; weight 338 lbs.
10 points, brow, bay, and tray, and
fork on top. (Typical red deer.)

No. 2.

$\frac{3}{4}$ wapiti, $\frac{1}{4}$ Altai, $\frac{1}{4}$ red deer; weight
509 lbs.
12 points, brow, bay, and tray, fork
on one top, cup of 4 points (one broken)
on other top.

HYBRID STAGS (FOUR YEARS OLD).

No. 3.

$\frac{3}{4}$ Altai, $\frac{1}{4}$ wapiti, $\frac{1}{4}$ red deer; weight
468 lbs.
10 points, brow, bay, and tray, and
fork of wapiti type on top.

No. 4.

$\frac{1}{2}$ wapiti, $\frac{3}{4}$ red deer; weight 338 lbs.
10 points, brow and tray, and cup on
top. (Typical red deer.)

the bad-shaped horns of the Altai, and I have accordingly given up breeding from them, although, from a gastronomic point of view, they are very good, being large, strongly built, and yielding venison superior to that of red deer.



ALTAI-RED-DEER CROSS, BRED AT SURRENDEN PARK.
SHOWING NARROW TYPE OF HEAD.

The wapiti-red-deer cross varies, some of the hinds being small—hardly larger than red deer hinds—but the progeny of these hinds, either by a wapiti or an Altai, are large, fine deer.

My best triple-cross hinds and stags are by an Altai stag from these wapiti-red deer hinds.

2

Their colour is greyer, and their coat finer and shorter than any of the parent species, the males of this triple cross carrying very red-deer-like horns, so that several cannot easily be distinguished from extremely fine red deer, such as those which one sees in old German or Austrian castles.

It is true some of the wapiti-red-deer cross-bred stags retain a little too much of the wapiti type of horn; but by selecting the type most resembling red deer for crossing with female Altai-red-deer hybrids, one can gradually get a red deer type of horn.

From the results at present attained, I feel almost sure that this triple cross of wapiti, Altai, and red deer, when interbred (as already mentioned, they are fertile and hardy), can be bred into a superior type of red deer, weighing half as much again, or even more, than ordinary red deer, while they are more strongly built, with a better coat—that is to say, finer and shorter hair; and what, of course, is the most important thing, having a very fine head of the red deer type, with many points.

As already remarked, the wapiti changes its type of horn when bred through several generations in England (Kent), so that it gradually comes to the red deer type; and I have in my park several young pure-bred wapiti stags very close to the red deer type. The horns have cups at the top, brow, bay, and tray points, and thus have little except their superior size to distinguish them from red deer heads to the casual observer.

It may be, therefore, that climate and soil have more to do with variety in horn-formation than the actual species of deer.

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